10. APPENDIX

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Technical Appendix A, "BCP Consistency with City's General Plan"

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A.1 Consistency Overview

A.1.1 Purpose and Utility

Throughout the development of the Bellevue Community Plan (BCP), much effort went into assuring its consistency with the *Merced Vision 2030 General Plan*. BCP consistency with the *Merced Vision 2030 General Plan* is useful from several vantage points including:

- use and reliance on adopted plan narrative, maps and policies, for example, the housing, safety and sustainability elements;
- application of adopted CEQA-based mitigation measures to the community plan;
- increased CEQA assessment options for the community plan project, including possible use of the EIR prepared for the General Plan;
- building from an adopted platform of City policies and community support; and
- need for minimal general plan amendments.

Successful implementation of this objective was made possible by leveraging City Staff's knowledge of the General Plan with the varied yet complementary consultant team, which assembled land use designers, transportation engineers, zoning analysts, economic advisors and architects to implement the vision of the General Plan through the BCP. Community engagement during the process to develop the BCP added fresh perspectives from multiple stakeholder vantage points.

A.1.2 Consistency with the City's Guiding Principles for Community Plans

The City's *General Plan* provides a policy framework upon which community plans are constructed. The City's "Guiding Principles for Community Plans" (Section 3.7.2, *Merced Vision 2030 General Plan*) are listed below. Principles 1, 3 and 5 are discussed in Section A2.

- Community Plans which include or are adjacent to established neighborhoods will address the needs of these neighborhoods and potential adverse impacts resulting from plan implementation.
- Public participation by area residents and property owners in the planning process will be emphasized.
    - See Appendix F of the BCP to read how this was accomplished.
- Community Plan areas need connectivity with existing and planned urban areas.
- Community Plans will include all elements determined necessary to ensure consistency with the *General Plan*. These elements may include, but not be limited to, Land Use, Circulation, Open Space, and infrastructure phasing. Community Plans will include a land use and infrastructure phasing plan.
    - The BCP includes six elements and a discussion on infrastructure phasing.

- The "Urban Villages" concept should be incorporated into the planning of these areas as much as feasible.
- The Community Planning process should be focused on the planning issues or concerns which need to be resolved for that planning area, and, to this degree, provide data, information, or policy clarification necessary to carry out the goals of the *Merced Vision 2030 General Plan*.
    - These issues and concerns are described as "Key Features and Issues of the Bellevue Community Plan," and are discussed in Section A.1.3, below.

A.1.3 Consistency with Key Features and Issues of the Bellevue Community Plan

To assure a full and comprehensive review, the consistency assessment in section A2 is framed by the General Plan's adopted chapter elements and overarching "Goal Areas." Within this framework are topics (listed below) added from General Plan narrative about "Key Features and Issues of the Bellevue Community Plan," which is fully described in the Introduction Chapter of the BCP.

- Assess development impact of Lake Yosemite Inundation Area.
- Create an employment corridor along Bellevue Road, including setting aside lands for future UC Merced spin-off development and job generating land uses.
- Plan for a unique urban village design due to proximity to campus and inclusion of jobs-based research and development land uses.
- Consider the influence of the campus and community land use and circulation plans.
- Plan for variety of housing types.
- Provide a mix of land uses in a vibrant setting.
- Locate commercial sites in nodes.
- Include multi-modal road corridor designs.
- Design streets that unify neighborhoods rather than separate them.
- Reserve adequate rights-of-way.
- Define the design and function of Bellevue Road.
- Set the alignment for Gardner Road.
- Identify an arrangement of arterial and collector roads.
- Plan for Bellevue Road as a gateway.
- Plan for landscaped boulevards.
- Include pedestrian and mixed-use transit oriented designs.

- Provide for a hilltop focal point (south of Bellevue Road between G Street and Gardner Road).
- Identify development design guidelines.
- Discuss location and finance options for public facilities.
- Consider sensitive species and habitat conservation.

A.1.4 Consistency with Adopted General Plan Policies

A complete and full listing of *Merced Vision 2030 General Plan* goals, objectives, policies, and implementing actions that have notable relevance to the BCP project area and/or plan objectives are listed in Technical Memorandum C (Appendix C) of the BCP. This appendix also includes policies crafted as a part of the BCP, which are "nested" within the broader goals, policies and implementation actions of the *Merced Vision 2030 General Plan*. To ensure the overriding influence of the General Plan's goals, policies and implementing actions, development of BCP policies was intentionally limited to those instances where additional language would serve to add clarity, and to couple policy statements with plan maps, diagrams and images to improve interpretation and application of the BCP. Finally, each chapter of the BCP contains a policy section with goal headings that are the same as those listed in the *Merced Vision 2030 General Plan*. Together, these strategies foster consistency with the City's General Plan policy set. All policies in Technical Memorandum C are a key part of the BCP and are intended to guide and inform development-related activities in the project area.

A.2 Consistency Assessment

The following discussion describes the proposed project's relationship to and consistency with the Merced Vision 2030 General Plan. The discussion is framed by General Plan elements and goal areas.

A.2.1 Urban Expansion

URBAN EXPANSION

Urban expansion in the BCP planning area was considered within the regulatory framework of several influences including: 1) the regulatory setting of the Merced Local Agency Formation Commission; 2) the City's annexation policies; 3) regional needs such as intrastate rail and roadways, transit and arterial street needs, and future job generating uses near UC Merced; and, 4) key growth factors such as physical constraints, the UCM growth node, forecasted population growth, costs to install and operate public infrastructure and services, and need to coordinate growth among competing interests.

Given the above considerations, and in the context of the goal to grow orderly, that is, compactly while preserving open space and prime agriculture and in a manner that extends government facilities and services in an efficient manner, the BCP presents four possible growth scenarios, some more probable than others; no recommendation is provided. Rather, the BCP identifies the need for a collaborative effort to create a multi-jurisdictional infrastructure and service plan that can result in decisions that direct growth in a manner that serves the interest of the community as a whole in a fiscally sound manner. The BCP emphasizes that challenging questions pertaining to infrastructure, financing and phasing should be addressed before further growth and development occur in the northeast growth area of Merced.

CONCLUSION

All adopted policies and CEQA-based mitigation measures for the *Merced Vision 2030 General Plan* concerning *Urban Expansion* apply to the BCP planning area. While new BCP policies are recommended, these clarify General Plan policies as to their relevance to the planning area, and are not contradictory to General Plan policies. The BCP does not propose any action or plan that is inconsistent with the vision described in the City's General Plan. Therefore, the BCP is consistent with Urban Expansion-related *Goal Area* of the City's General Plan, as discussed above.

A.2.2 Land Use

The land use design of the BCP was crafted based on four guiding subjects: 1) residential and neighborhood design; 2) economic and business development; 3) urban growth and design; and 4) the illustrative plan of the Bellevue Corridor Community Plan (below) as found in the *Merced Vision 2030 General Plan*.

RESIDENTIAL & NEIGHBORHOOD DESIGN

The City's General Plan *Guiding Principle #1 for Community Plans,* identifies the need to address adverse impacts to existing neighborhoods that may be caused by new development in the community plan area. The BCP minimized potential impacts, by 1) identifying and setting logical boundaries for expansion and strengthening of existing rural residential neighborhoods; 2) locating complementary and compatible land uses within and adjacent to them; and 3) focusing the new intensive growth away from these neighborhoods. The BCP also includes permitting strategies to maximize compatibility between new development and existing home sites.

ECONOMIC AND BUSINESS DEVELOPMENT

The *Merced Vision 2030 General Plan* includes numerous policies and narratives concerning the anticipation for significant jobs-based land uses within the BCP. Following the lead of the General Plan, the BCP includes a "Research and Development Park Character Area" that could accommodate approximately 2.8 million square feet of Research and Development floor space. The Plan is flexible, supporting the size of this land use to adjust depending upon market conditions.

URBAN GROWTH AND DESIGN

The City's General Plan *Guiding Principle #5 for Community Plans*, emphasizes that the "Urban Villages" concept should be incorporated into the planning of these areas as much as feasible A discussion on this Goal Area is provided in Section A.2.5, "Urban Design."

BELLEVUE CORRIDOR COMMUNITY PLAN ILLUSTRATIVE PLAN

Section 3.7.4 of the General Plan, "Bellevue Corridor Community Plan," is a narrative statement describing the vision of this community plan area. Regarding land use, it describes the need for a variety of housing types, a mix of land uses in a vibrant setting, and for commercial sites to be located in nodes, as opposed to strip-commercial. The land use concepts of this vision were supported in the General Plan through the establishment of an "Illustrative Plan" titled, "Bellevue Corridor Community Plan." While some variation from the "Illustrative Plan" is to be expected, it anchored several key concepts, including: 1) provision of a mixed-use corridor between G Street and Lake Road in the vicinity of Bellevue Road; 2) low density land uses on

either side of the mixed use corridor to blend with these existing or planned uses to the north and south; 3) reservation of a large area of land for anticipated jobs-based research and development parks; 4) retention of the *Callister* development plan (northwest corner of Bellevue Road and Lake Road); and 5) connectivity to adjacent neighborhoods and UC Merced.

The "Illustrative Plan" from the General Plan is shown at Figure A-1 (below), and descriptions of the land uses in this plan are described in Table A-1. Acreage amounts of these land uses are provided for in Table A-2, and the forecasted number of units and employees are depicted in Table A-3.

The *Bellevue Community Plan Character Type Plan* is a refinement of, and contains all the key concepts anchored by, the Illustrative Plan. A comparative assessment of the land uses in these plans is provided for in Tables A-4 through Table A-7, revealing substantial consistency between the total number of dwelling units and employees. The BCP numbers in Tables A-6 and A-7 do not reflect the proposed intensification in the expansion areas for the Business Park and Mixed-use TOD Character areas identified in Chapter 5, Community Character.

Figure A-1 Bellevue Corridor Community Plan- Illustrative Plan, 2008

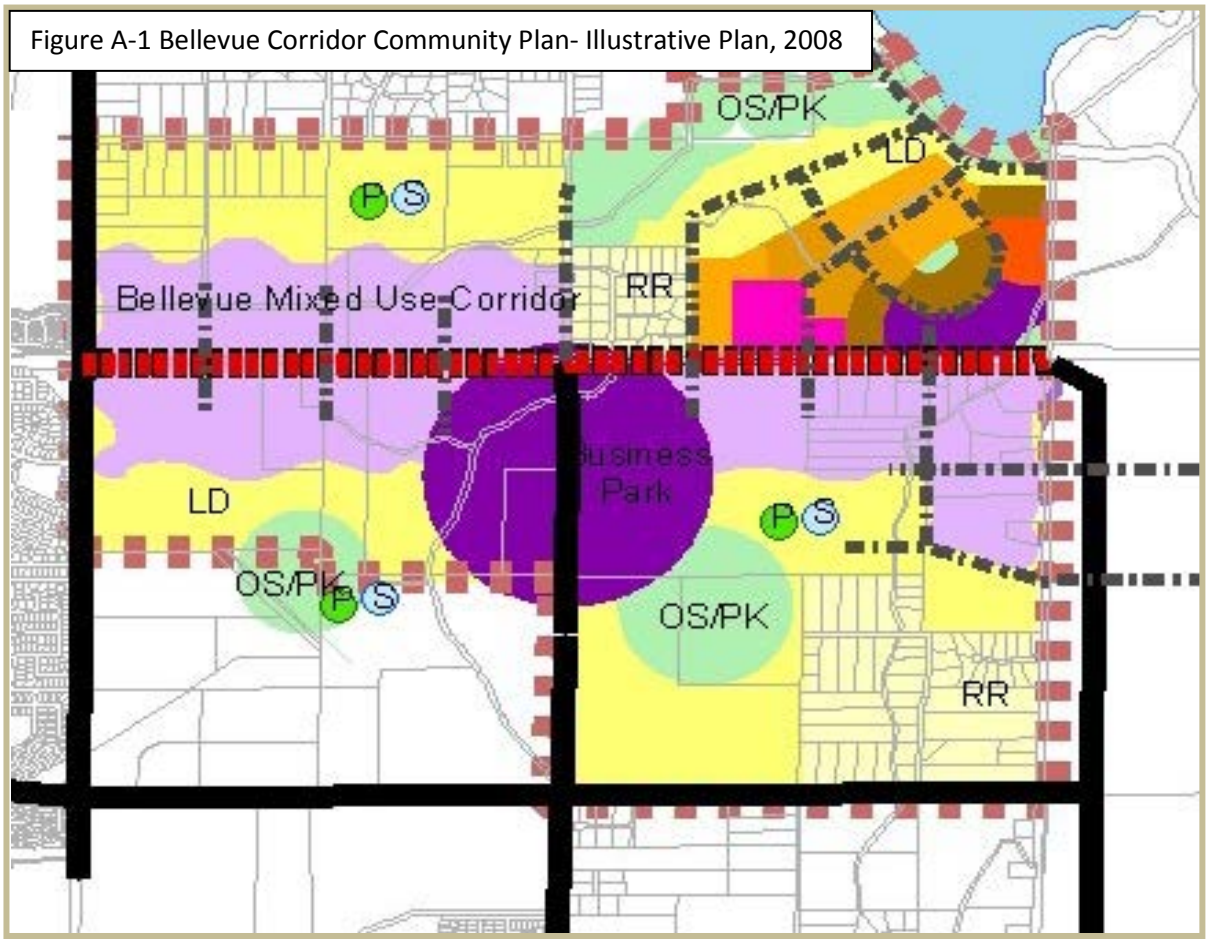


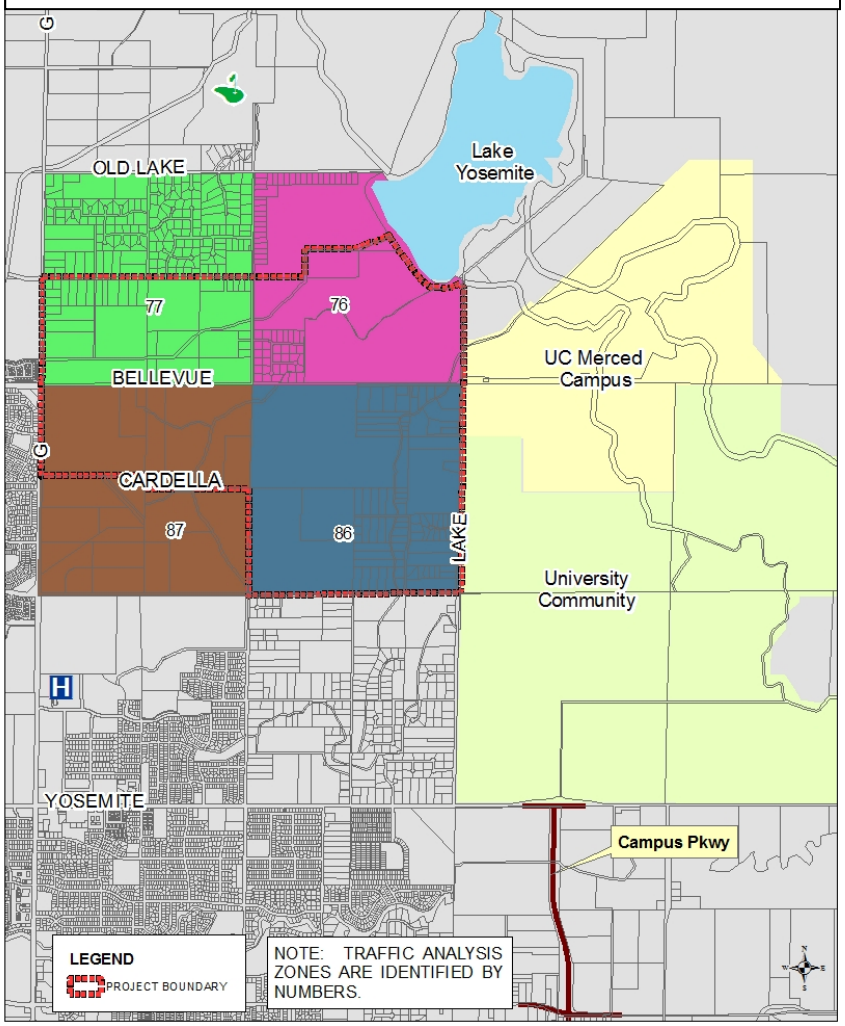
Table A-1: General Plan Land Use Designations Used in the Bellevue Corridor Community Illustrative Plan (Figure A-1)

Land Use Designations	Intended Uses	Density
Rural Residential (RR)	Residential: single-family	1 – 3 units per acre
Low Density Residential (LD)	Residential: single-family detached, condominium, and zero-lot line	2 – 6 units per acre
Low-Medium Density Residential (LMD)	Residential: single-family detached, duplex, triplex, fourplex, condominium, zero-lot-line	6.1 – 12 units per acre
High-Medium Density Residential (HMD)	Residential: multifamily, apartment, condominium, triplex, fourplex	12.1 – 24 units per acre
High Density Residential (HD)	Residential: multifamily	24.1 – 36 units per acre
Village Residential (VR)	Housing Types Varies	7.0 – 30 units per acre
Commercial Office (CO)	Commercial: primarily small-scale office uses as well as general retail and service commercial	0.50 FAR
Neighborhood Commercial (CN)	Commercial: retail, eating and drinking, commercial recreation, auto services, etc.	Average 0.35 FAR
Bellevue Mixed Use Corridor	A mixture of LMD, HMD, HD, CO and CN.	Varies
Thoroughfare Commercial (CT)	Commercial: auto-oriented commerce, large recreational facilities, some heavy commercial, lodging and hospitality, automobile sales and services	0.35 FAR
Business Park (BP)	Commercial and industrial: heavy commercial, office, research and development, light manufacturing, warehousing, information-based and service-based activities	0.40 FAR
Open Space – Park/Recreation Facility (OS-PK)	Recreation: public parks, golf courses, greens, commons, playgrounds, and other public and private open spaces	0.10 FAR
Future Schools	10-acre Floating Elementary School sites	Not Listed in General Plan

TRAFFIC ANALYSIS ZONES (TAZ)

The traffic study that was prepared for the *Merced Vision 2030 General Plan* included data describing anticipated land uses within Traffic Analysis Zones (TAZs). TAZs define land uses by number of dwelling units and employees per acre, within a geographic area. These figures are partly determined by anticipated land uses acreages. Figure A-2 displays the location of TAZs relative to the study area of the BCP, these being TAZ areas 76, 77, 86 and 87.

Figure A-2 Traffic Analysis Zones (TAZ) of the BCP



TAZ's 76, 77, and 87 extend past the boundary of the BCP study area. TAZ 86 is completely within the BCP study area. In order to define the anticipated land use acreages within the study area, 809 acres of land uses that occur outside the study area were trimmed from the TAZ data sets. In this manner, a set of defined land uses, consistent with the traffic study that was prepared for the *Merced Vision 2030 General Plan*, was created to serve as a parameter to help define the land use plan for the BCP. Table A-2 portrays the changes described above.

Table A-2: Acres of Land Uses Anticipated in *Merced Vision 2030 General Plan* occurring within the planning area of the *Bellevue Community Plan*

	General Plan Land Use Designations											
	RR	**LD**	**LMD**	**HMD**	**HD**	**VR**	**CO**	**CN**	**CT**	**BP**	**OS**	**SCH**
TAZ 76												
GP Full Extent	194	70	47	26	32	0	0	23	11	27	86	0
Reduced Acres	155	0	0	0	0	0	0	0	0	0	0	0
BCP Study Area	39	70	47	26	32	0	0	23	11	27	86	0
TAZ 77												
GP Full Extent	160	320	17	0	17	27	23	27	11	16	8	10
Reduced Acres	160	160	0	0	0	0	0	0	0	0	0	0
BCP Study Area	0	160	17	0	17	27	23	27	11	16	8	10
TAZ 86												
GP Full Extent	181	223	16	25	16	0	22	25	10	75	30	10
No Changes	0	0	0	0	0	0	0	0	0	0	0	0
BCP Study Area	181	223	16	25	16	0	22	25	10	75	30	10
TAZ 87												
GP Full Extent	0	304	20	0	0	105	17	43	8	75	36	10
Reduced Acres	0	185	0	0	0	105	0	22	0	0	22	0
BCP Study Area	0	119	20	0	0	0	17	21	8	75	14	10

Table A-3 Applicable TAZ data within the BCP Study Area- Subset of Actual TAZ

TAZ Number	Land Use Designation		Acres	Single-family Units per acre	Multi-family Units per acre	Total Single-family Units	Total Multi-family Units	Employees per acre	Total employees
Zone 76									
	BP		26.63					23	612
	CT		11.27					19	214
	HD		31.89		24.1		769		
	HMD		25.35		16		406		
	LD		70.36	4.5		317			
	LMD		46.96	8		376			
	RR		39.00	1		39			
	NC		22.84					19	434
	O/S	360.68	86.38						
Totals:						**731**	**1,174**		**1,261**
Zone 77									
	HD		17.23		30		517		
	LMD		17.23	8		138			
	OS		7.83						
	CT		10.96					19	208
	BP		15.66					23	360
	CO		23.49					30	705
	School		10.00					10	
	LD		160.00	4		640			
	NC		26.62					19	506
	VR		26.62		18		479		
	RR	315.64	0.00	1		0			
Totals:						**778**	**996**		**1,779**
Zone 86									
	LD		223.00	4.5		1,004			
	RR		181.00	1		181			
	HD		16.16		24.1		389		
	BP		75.00					23	1,725
	HMD		24.97		14		350		
	O/S		30.00						
	CT		10.28					19	195
	LMD		16.16	8		129			
	CO		22.04					30	661
	school		10.00						
	NC	633.58	24.97					19	474
Totals:						**1,314**	**739**		**3,056**
Zone 87									
	CO		17.20					30	516
	BP		75.00					23	1,725
	LD		119.00	4.5		536			
	O/S		14.00						
	VR		0.00	14		0			
	LMD		20.41	8		163			
	CT		8.03					19	153
	school		10.00						
	NC	284.64	21.00					19	399
Totals:						**699**	**0**		**2,793**

Table A-4: Comparative Land Use Types of the *Merced Vision 2030 General Plan* and the *Bellevue Community Plan*

Land Use Types	*Merced Vision 2030 General Plan*	*Bellevue Community Plan (BCP)*
	General Plan Land Use Designations	BCP Character Areas
Single-Family	- Rural Residential (RR) - Low Density Residential (LD)	- Rural Neighborhood - Single Family Neighborhood
Multifamily	- Low Medium Density (LMD) - High Medium High Density (HMD) - High Density (HD) - Village Residential (VR)	- Multifamily Neighborhood - Mixed-Use TOD
Retail	- Neighborhood Commercial (CN) - Commercial Thoroughfare (CT)	- Neighborhood Commercial - Mixed-Use TOD
Office	- Commercial Office (CO) - Business Park (BP)	- R&D Employment District - Mixed-Use TOD
Open Space	- Open Space/Parks Recreation - Future Parks	- Open Space - Future Schools
Schools	- Future Schools	- Future Schools

Table A-5: BCP Character Area Descriptions

Character Area	Intended Uses	Density
Rural Neighborhood	Residential: single-family	2 - 6 units per acre
Single Family Neighborhood	Residential: single-family detached and zero-lot-line	6 – 12 units per acre
Multifamily Neighborhood (Medium)	Residential: multifamily, duplex, triplex, and fourplex	12 – 24 units per acre
Multifamily Neighborhood (High)	Residential: multifamily	24 – 36 units per acre
Neighborhood Commercial	Commercial: retail, eating and drinking, commercial recreation, auto services, etc.	0.35 – 0.55 FAR
R&D Employment District	Commercial and industrial: heavy commercial, office, research and development, light manufacturing, warehousing, information-based and service-based activities	0.35 – 0.75 FAR
Mixed Use TOD	A mixture of all uses except Rural Neighborhood with an emphasis on higher intensity transit-oriented development	0.35 – 0.75 FAR
Open Space	Recreation: public parks, golf courses, greens, commons, playgrounds, and other public and private open spaces	0.10 FAR
Future Schools	10-acre Floating Elementary School sites	N/A

Table A-6: Development Capacity for the BCP Compared to the *Merced Vision 2030 General Plan* by TAZ

		General Plan	RR	LD	LMD	HMD	HD	VR	CT	CN	CO	BP	
		BCP	Rural	Single Family		MF Med	MFHigh	N/A	Retail		Business Park		Total
TAZ 76	Residential Units	General Plan Projection for BCP Area	39	317	376	406	769						1,905
		BCP Residential Units	**51**	**696**		**513**	**788**						**2,048**
	Square Footage	General Plan Estimate for BCP[1]							85,600	173,600	0	183,600	442,800
		BCP Square Footage[2]							**221,111**		**211,919**		**433,030**
	Employment	General Plan Projection for BCP							214	434		612	1,260
		BCP Employees[3]							**553**		**706**		**1,259**
TAZ 77	Residential Units	General Plan Projection for BCP Area		640	138		517	479					1,774
		BCP Residential Units	**198**	**770**		**736**	**0**						**1,703**
	Square Footage	General Plan Estimate for BCP[1]							83,200	202,400	211,500	108,000	605,100
		BCP Square Footage[2]							**128,890**		**276,192**		**405,082**
	Employment	General Plan Projection for BCP							208	506	705	360	1,779
		BCP Employees[3]							**322**		**921**		**1,243**
TAZ 86	Residential Units	General Plan Projection for BCP Area	181	1,004	129	350	389						2,053
		BCP Residential Units	**300**	**1,107**		**515**	**281**						**2,203**
	Square Footage	General Plan Estimate for BCP[1]							78,000	189,600	198,300	517,500	983,400
		BCP Square Footage[2]							**74,761**		**1,075,540**		**1,150,301**
	Employment	General Plan Projection for BCP							195	474	661	1,725	3,055
		BCP Employees[3]							**187**		**3,585**		**3,772**
TAZ 87	Residential Units	General Plan Projection for BCP Area		536	163								699
		BCP Residential Units		**299**		**287**	**135**						**720**
	Square Footage	General Plan Estimate for BCP[1]							61,200	159,600	154,800	517,500	893,100
		BCP Square Footage[2]							**56,168**		**1,365,704**		**1,421,872**
	Employment	General Plan Projection for BCP							153	399	516	1,725	2,793
		BCP Employees[3]							**140**		**4,552**		**4,693**
TOTAL	Residential Units	General Plan Projection for BCP Area	220	2,496	806	755	1,675	479					6,431
		BCP Residential Units	**549**	**2,872**		**2,051**	**1,203**						**6,675**
	Square Footage	General Plan Estimate for BCP[1]							308,000	725,200	564,600	1,326,600	2,924,400
		BCP Square Footage[2]							**480,930**		**2,929,356**		**3,410,285**
	Employment	General Plan Projection for BCP							770	1,813	1,882	4,422	8,887
		BCP Employees[3]							**1,202**		**9,765**		**10,967**

Table A-7: Summary of the *Merced Vision 2030 General Plan* and the *Bellevue Community Plan*		
Land Use Types	***Merced Vision 2030 General Plan***	***Bellevue Community Plan (BCP)***
Dwelling Unit Related Uses	Total Dwelling Units	Total Dwelling Units
Single-Family	3,522	3,421
Multifamily	2,909	3,254
Total	***6,431***	***6,675***
Employee Related Uses	Total Employees	Total Employees
Retail	2,583	1,292
R&D/Office	6,305	9,765
Total	***8,989***	***10,967***
Other Uses	Total Acreage	Total Acreage
Open Space	138	165
Schools	30	48

CONCLUSION

All adopted policies and CEQA-based mitigation measures for the *Merced Vision 2030 General Plan* concerning *Land Use* apply to the BCP planning area. While new BCP policies are recommended, these clarify General Plan policies as to their relevance to the planning area, and are not contradictory to General Plan policies. Although BCP includes some changes to the *Land Use* Element of the City's General Plan, as discussed in Section A.2.2, these are more of a clarification and refinement, than inconsistencies. Therefore, the BCP is consistent with *Land Use*-related *Goal Areas* of the City's General Plan which includes those topics discussed above.

A.2.3 Transportation and Circulation

STREETS AND ROADS

Consistent with Guiding Principle #3 for Merced's Community Plans, the BCP includes multiple points and methods of connectivity with existing and planned urban areas. For example, during the development process of the BCP, the Plan Leadership Team considered and assessed the influence that the UCM Campus and University Community land use and circulation plans had on the BCP. Connections to these areas include the extension of the City's one-mile grid of arterial streets (G Street, Cardella Road, Bellevue Road, and Gardner Road), and the one-quarter mile spaced network of collector roadways. Along the eastern boundary of the BCP, the Plan anticipates the future construction of a limited-access arterial (the extension of the Campus Parkway Extension), which together with Bellevue Road and the Atwater Merced Expressway (AME), forms a loop road around Merced and connects with State Route 99 to serve regional traffic needs. The BCP includes several design options for Bellevue Road that blend the regional nature of this road while recognizing its importance as a gateway and need to serve anticipated uses. Transit linkages are another important element of connectivity and are discussed in greater detail below.

BCP Official Circulation Map

The BCP's Official Circulation Map includes all the roadway connections described above. Supplementing this map are images and tables that define rights-of-way needs for these roadways, taking into consideration the plan for complete streets, gateways and regional traffic needs. The BCP Circulation Plan was enhanced based on a full integration of General Plan goals, and includes the following distinctions: 1) placement of the transit corridor amongst a variety of land uses and in a pedestrian oriented setting on Mandeville Lane, away from the regional automobile traffic anticipated to occur on Bellevue Road; and 2) side-access roadway options for Bellevue Road to improve aesthetics; provide increased vehicular accessibility to properties; and to minimize conflicts with faster moving regional traffic. These enhancements have the general effect of reducing development-related impacts.

Figure A-3 BCP Street Classification Map

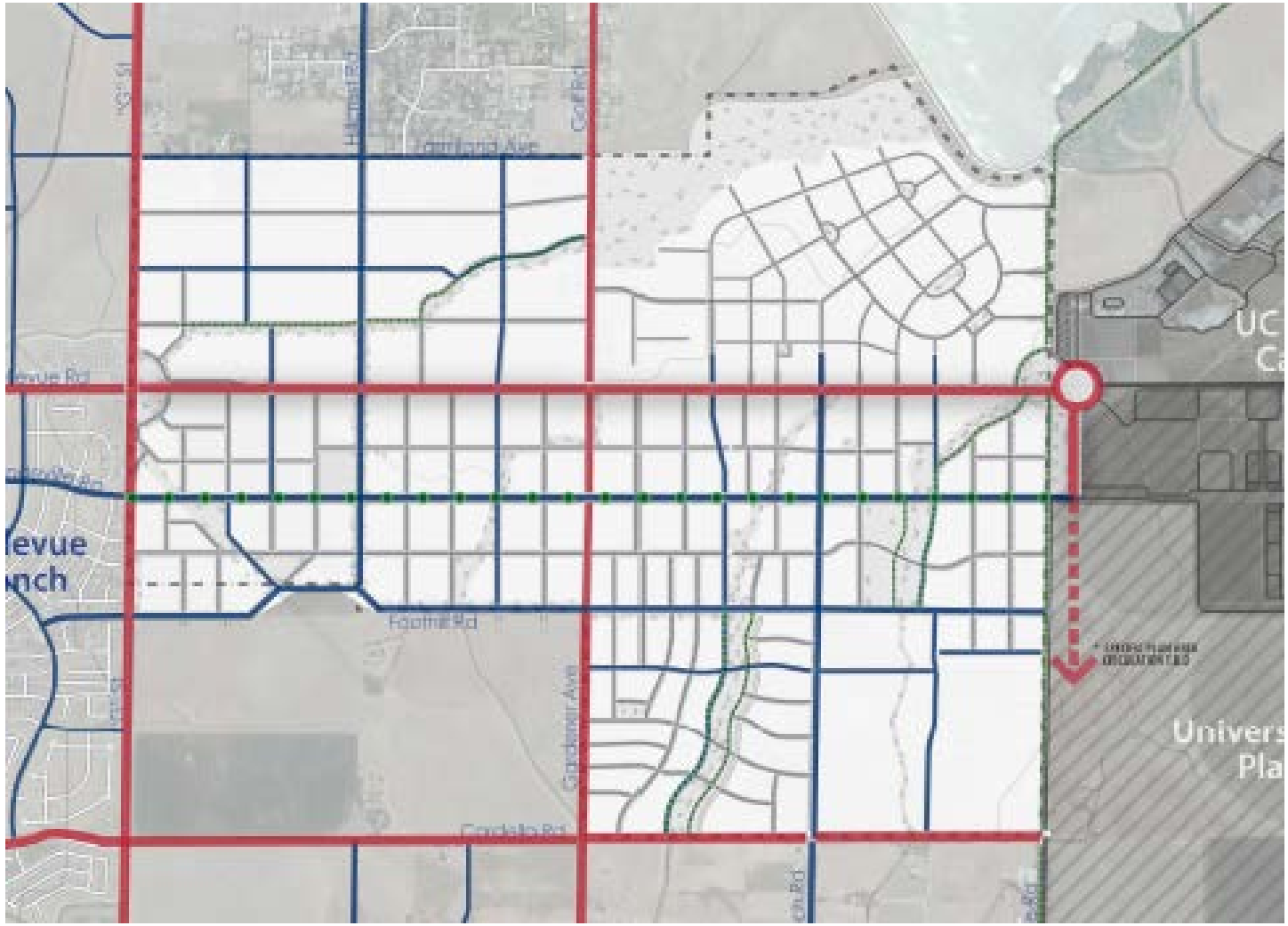


Table 8: Arterial Streets within BCP Planning Area

Road Segment	General Plan (GP) Data			Bellevue Community Plan Project
	GP Table 4.2	GP Traffic Study	GP Forecast LOS	
G Street Cardella to Bellevue	*Major Arterial* 4-6 lanes	4 lanes	LOS D with 4 lanes	No changes are proposed.
G Street Bellevue to Old Lake	*Major Arterial* 4-6	6 lanes	LOS D with 6 lanes	No changes are proposed.
Bellevue Road G to Gardner/Golf	*Major Arterial* 4-6 lanes	6 lanes[1]	LOS E with 6 lanes	Although no changes are proposed, the BCP recommends a traffic study be prepared to confirm the BCP's finding that 4 lanes may be adequate, and also provides for the use of side streets on either side of Bellevue Road.
Bellevue Road Gardner/Golf to Campus Pkwy	*Major Arterial* 4-6 lanes	6 lanes	LOS D with 6 lanes	Although no changes are proposed, the BCP recommends a traffic study be prepared to confirm the BCP's finding that 4 lanes may be adequate, and also provides for the use of side streets on either side of Bellevue Road.
Cardella Road	*Divided Arterial* 4-6 lanes	4 lanes	LOS D with 4 lanes	No changes are proposed.
Gardner Road Cardella to Foothill	*Minor Arterial* 2-4 lanes	4 lanes	LOS D with 4 lanes	No changes are proposed.
Gardner Road Foothill to Bellevue	*Minor Arterial* 2-4 lanes	4 lanes	LOS D with 4 lanes	Although no changes are proposed, the BCP recommends a traffic study be prepared to confirm the BCP's findings that a 4 to 3 lane roadway (one travel lane in each direction and a turn lane) may be adequate.
Golf Road Bellevue to Old Lake	*Minor Arterial* 2-4 lanes	4 lanes	LOS F with 2 lanes LOS C+ with 4 lanes	Although no changes are proposed, the BCP recommends a traffic study be prepared to confirm the BCP's findings that a 2 or 3 lane roadway may be adequate.

[1] Per the GP Traffic Study, even with 6 lanes, this segment is forecasted to experience LOS E Conditions. A statement of overriding considerations was adopted by the City as part of he EIR for the *Merced Vision 2030 General Plan*.

Arterial Street Travel Lanes

Table 4.2, "Summary of Street and Highway Standards," of the *Merced Vision 2030 General Plan*, describes the characteristics of roadway categories. Arterial roads, depending upon type, can have between 2 to 6 lanes of traffic. The Environmental Study for the General Plan identified the minimum number of lanes needed for certain roads to avoid sub-standard level of service. No assessment of collector road level of service was performed with the City's General Plan. Table A-8 above compares the number of lanes in the BCP planning area arterial streets that occur in the City's General Plan and what is recommended in the BCP, revealing consistency between the two planning documents.

Collector Street Travel Lanes

Consistent with the *Merced Vision 2030 General Plan*, all collectors within the BCP will include a total of two travel lanes (one for each direction). The treatment of on-street parking, bikeways, parkstrips, medians and sidewalk width and location may vary, however. These treatments are intended to enhance the complete street nature of the public rights-of-way resulting in an increase in overall travel capacity of the roadway. On Mandeville Lane, transit use will be emphasized.

BICYCLES, PEDESTRIANS, AND PUBLIC TRANSIT

Consistent with the goal of the *Merced Vision 2030 General Plan* to plan for roads that are multi-modal for use by automobiles, transit, bicycles and pedestrians, the BCP includes several elements that support its functional implementation, and include: 1) adequate rights-of-way that accommodate these transportation methods; 2) plans that identify the location where these different mobility forms are to be emphasized; 3) a land use plan that allows for a wide variety of land uses to be placed near one another; and 4) design standards to create places that are suited to pedestrians, bicyclists and automobiles alike.

The BCP's Bicycle Master Plan extends the City's off-street and on-street bikeway system through and beyond the BCP, ensuring connectivity to UC Merced, Lake Yosemite Regional Park, and to nearby schools, parks, neighborhoods, and shopping and employment districts. A high percentage of the UCM population will use bicycles for transportation. To provide for this population, and to reduce impacts and costs related to constructing roadway travel lanes, the BCP's Bicycle Master Plan provides several bikeway connection between the campus and the employment, shopping and residential neighborhoods planned in the BCP.

The BCP emphasizes the formation of a transit-corridor, linking the planned transit stations in Bellevue Ranch and at UC Merced. This corridor is located one-quarter mile south of and parallel to Bellevue Road. This arrangement supports regional automobile trips on Bellevue Road, while creating a pedestrian-oriented corridor along Mandeville Lane. This transit-corridor will be essential to unify neighborhoods rather than separate them. The design of

Bellevue Road, while providing for regional traffic, is planned as a gateway, emphasizing the value aesthetics and access to unify both sides of this road as a distinct place as opposed to a sterile and walled expressway.

AIR AND RAIL SERVICES

The BCP planning area is located miles away from the influences of air and rail transportation services. Nevertheless, the BCP defers to the *Air and Rail* narrative, images, diagrams and policies of the *Merced Vision 2030 General Plan* to further guide development and operations within the BCP planning area as appropriate. All adopted policies and CEQA-based mitigation measures for the *Merced Vision 2030 General Plan* apply to the BCP planning area. Therefore, the BCP is consistent with the air and rail-related *Goal Area* of the City's General Plan.

CONCLUSION

The base BCP Circulation Plan (Figure A-3) contains all essential elements assumed in the *Merced Vision 2030 General Plan*, including: 1) the alignments and types of street classifications; 2) connectivity to adjacent properties and planning areas; 3) a transit corridor between UC Merced and the Bellevue Ranch Master Development Plan transit circle; 4) Bellevue Road designed to accommodate anticipated regional traffic needs as part of Merced's "Loop Road;" 5) Scenic Corridor of "gateway" designs for Bellevue Road and Lake Road; and 6) complete street designs incorporating pedestrians, bicycles, automobiles and transit.

All adopted policies and CEQA-based mitigation measures for the *Merced Vision 2030 General Plan* concerning *Transportation and Circulation* apply to the BCP planning area. While new BCP policies are recommended, these clarify General Plan policies as to their relevance to the planning area, and are not contradictory to General Plan policies. Although BCP includes some changes to the *Transportation and Circulation* Element of the City's General Plan, as discussed in Section A3, these are more of a clarification and refinement, than inconsistencies. Therefore, the BCP is consistent with Transportation and Circulation-related *Goal Areas* of the City's General Plan which includes those topics discussed above.

A.2.4 Public Facilities and Services

Though the BCP includes a Public Facilities and Services chapter, the narrative, images, diagrams and policies of the *Merced Vision 2030 General Plan* concerning this general topic provide overall guidance to the BCP. While the BCP includes a discussion about most Goal Areas related to public facilities and services, including the location and finance options for public facilities, the Goal Areas concerning storm-drainage and flood control, schools and wastewater are particularly pertinent to the BCP study area and received greater discussion.

STORM-DRAINAGE AND FLOOD CONTROL

The City's General Plan recognizes and encourages the value of addressing storm-drainage, flooding, water resources and open space through the design of an integrated system. The BCP follows this lead by recommending: 1) the continued use of surface water flow in the plan area's irrigation laterals and natural drainages; 2) the use of flood control basins as recreational spaces; and 3) the capture and slowing of storm water runoff within open space features within the rights-of-way.

SCHOOLS

Consistent with policies in the *Merced Vision 2030 General Plan*, during the process of developing the BCP, the City coordinated with the local school district to identify potential future school sites central to the proposed neighborhoods. The BCP identifies and plans for the siting of 3 schools within the plan area boundary, and that neighborhood park sites be combined to form joint-use facilities.

WASTEWATER

The use of the existing sewer collection lines in the BCP planning area along Bellevue Road was assessed to understand the extent of future development potential. The sewer line was constructed at a time when the eastern half of the BCP planning area (east of Gardener Road) was located outside the Specific Urban Development Plan (SUDP) . While an out-of-boundary service was permitted, future sewer connections in this eastern area were limited to emergency cases only. With adoption of the *Merced Vision 2030 General Plan*, the SUDP shifted east so that all of the BCP is within the City's near-term development area, and limitations that were based on this boundary no longer apply. While some collection capacity would remain, use of the line by UC Merced (today and in the future), and by other already annexed lands in and near the Plan area will utilize most of the capacity in this line. Additional sewer collection lines will be needed to serve future development within the northeast portion of Merced's SUDP.

CONCLUSION

All adopted policies and CEQA-based mitigation measures for the *Merced Vision 2030 General Plan* concerning public facilities and services apply to the BCP planning area. While new BCP policies are recommended, these clarify General Plan policies as to their relevance to the planning area, and are not contradictory to General Plan policies. The BCP does not propose any action or plan that is inconsistent with the vision described in the City's General Plan. Therefore, the BCP is consistent with Public Facilities and Services-related *Goal Areas* of the City's General Plan including those topics discussed above, as well as the following: public facilities and services, police and fire protection, water, solid waste, cultural and community services and telecommunications.

A.2.5 Urban Design

TRANSIT-READY DEVELOPMENT/URBAN VILLAGES

The *Merced Vision 2030 General Plan* contains a guiding principle to incorporate the Urban Village concept as a design template for future growth areas in the City, including the BCP. Statements in the General Plan and comments received from the community made it clear that the urban design of the BCP would be unique, however. General Plan Policy UD-1.1h calls for "special *Urban Village* designs to be developed for increased opportunities for job-based land uses attracted by a university climate." The Community expressed concerns about the amount of low-density residential that has traditionally been located in the City's Urban Villages, as well as the location and intensity of commercial uses. Thus, as part of the process to develop the BCP, the Plan Leadership Team worked to create a unique plan for the BCP study area that was both consistent with the General Plan and the interest of the community. As part of this work, Staff grouped similar General Plan policies into the following design principles:

- pedestrian-friendly settings
- mobility/travel options, reduced vehicle road noise, and safer roadways
- Increased access to neighborhood centers and less congested intersections
- Proximity between a variety of housing types and destinations (retail, offices, public spaces)
- Open space networks

Using these design principles as a guiding framework to assure consistency with the General Plan, a unique design was applied to the BCP that included the following variations:

1) A corridor approach, as compared to the half-circle shape, expands the amount of land that can be intensively developed. This allows for the inclusion of job-generating land uses and enhances the vitality of future transit use. This increase in land used for more intense uses reduces the land area formerly sited with low-density housing.

2) Inclusion of job-generating type land uses provides for large-scale office sites to be blended with the other land uses, and is not relegated to the opposite side of the major thoroughfare. This improves the use of bicycle, pedestrian, and transit modes by increasing the proximity of land uses with housing, and add flexibility in the siting of offices.

3) Massing a mixture of land uses along a corridor creates numerous destination sites, instead of the singular "commercial core" destination site. The proposed plan creates a series of centers, which will be linked by east-west connections as well as from neighborhoods located to the north and south. This effect will boost the market potential and liveliness of the area.

4) The plan places research and development sites along the south side of Bellevue on both sides of Gardner Road, at the terminus of the City's long-planned north-south arterial street, Parsons Avenue, improving access to an important employment area to the community.

5) For purposes of describing a pedestrian-oriented zone, the Village concept describes a ¼ mile radius from the commercial core and fronting thoroughfare. The BCP maximizes the size of that zone by shifting the "urban center" along Mandeville Lane, from which the ¼ mile is measured on both sides of this road for a length of two miles.

6) Transit Priority Projects (TPP) may occur throughout the Mandeville Transit Corridor. TPP's are high-density residential (no less than 20-units per acre) or mixed-use developments service by a major transit stop or corridor. A key driver of the TPP is the success of the transit function of the corridor, which in turn is driven by a vibrant mixed-use pedestrian-oriented corridor.

A plan unique to the BCP planning area, distinct from the City's Urban Village Concept, is expressed through these variations.

OVERALL COMMUNITY APPEARANCE

The City's General Plan includes policies to enhance the appearance of the community through several means, such as creating gateways, landscaped medians and use of important physical attributes, for example, hilltops. The BCP considered this direction and includes 1) plans to create gateway roads for both Bellevue Road and Lake Road; 2) to include a landscaped median in Bellevue Road and residential collectors; and 3) encourages site-designs to emphasize a hilltop focal point in the area near Gardner Road, south of Bellevue Road. The BCP also recommends that the City's adopted urban design guidelines to set the framework for City expectations of site plan designs within the BCP.

CONCLUSION

All adopted policies and CEQA-based mitigation measures for the *Merced Vision 2030 General Plan* concerning urban design apply to the BCP planning area. While new BCP policies are recommended, these clarify General Plan policies as to their relevance to the planning area, and are not contradictory to General Plan policies. The BCP does not propose any action or plan that is inconsistent with the vision described in the City's General Plan. Therefore, the BCP is consistent with Urban Design-related *Goal Areas* of the City's General Plan which includes those topics discussed above.

A.2.6 Open Space, Recreation and Conservation

Though the BCP includes an *Open Space, Recreation and Conservation Chapter*, the narrative, images, diagrams and policies of the *Merced Vision 2030 General Plan* concerning this general topic provide overall guidance to the BCP. While the BCP includes a discussion about Goal Areas related to *open space, recreation and conservation,* the Goal Areas concerning "Open Space for the Preservation of Natural Resources" and "Open Space for Outdoor Recreation" are particularly pertinent to the BCP study area and received greater discussion.

OPEN SPACE FOR THE PRESERVATION OF NATURAL RESOURCES

In that the BCP contains sensitive species and habitat areas, the Plan considered and recommends several methods to conserve these natural resources. Consistent with adopted mitigation measures of City's General Plan EIR, property owners are required to prepare delineations of Waters of the U.S. and Wetlands prior to annexation, and to obtain permits from relevant state and federal agencies. Property owners also need to comply with the adopted Memorandum of Understanding between the City of Merced and the United States Fish and Wildlife Service. Additionally, the Open Space Master Plan of the BCP establishes several open space corridors that include identified sensitive habitats. For example, the Plan proposes a large corridor extending from Cardella Road to Lake Road at a point north of Bellevue Road. These may shrink or expand depending upon the findings and actions of the permitting process described above.

OPEN SPACE FOR OUTDOOR RECREATION

The BCP includes several active parks including three neighborhood parks, a community park and several urban plazas. Neighborhood parks are recommended to be combined with future school sites to serve the anticipated population. As a water conservation method, the Community Park is recommended to be served with surface water from nearby Yosemite Lateral. Urban plazas will add open space opportunities to high-density populations along Mandeville Lane. The Plan's Bicycle Master Plan connects these features through a network of off-street and on-street bikeways. The location and extent of these open space facilities are consistent with those identified in the City's General Plan and Parks and Recreation Plan.

CONCLUSION

All adopted policies and CEQA-based mitigation measures for the *Merced Vision 2030 General Plan* concerning *open space, recreation and conservation* apply to the BCP planning area. While new BCP policies are recommended, these clarify General Plan policies as to their relevance to the planning area, and are not contradictory to General Plan policies. The BCP does not propose any action or plan that is inconsistent with the vision described in the City's General Plan. Therefore, the BCP is consistent with *Open Space, Recreation and Conservation*-related *Goal Areas* of the City's General Plan including those topics discussed above, as well as the

following: "Open Space for the Managed Production of Resources," "Open Space for Public Health and Safety," and "Conservation of Resources."

A.2.7 Sustainable Development

Sustainable development goals, policies and actions are, by necessity, integrated throughout the BCP. For example, foundational aspects of the Plan's Mobility Chapter include effective and efficient transportation infrastructure, and integrated land use and transportation planning. Similarly, the Plan's Open Space, Recreation and Conservation Chapter emphasizes increased physical activity of residents and urban forestry. The Public Facilities and Services Chapter promotes conservation of resources, resilient natural open space features, and use of solar energy technologies. Supplementing these actions are additional goals, policies and actions that can be found in the Sustainable Development Chapter of the *Merced Vision 2030 General Plan*. The BCP relies on the *Sustainable Development* narrative, images, diagrams and policies of the *Merced Vision 2030 General Plan* to further guide development and operations within the BCP planning area. All adopted policies and CEQA-based mitigation measures for the *Merced Vision 2030 General Plan* apply to the BCP planning area. Therefore, the BCP is consistent with sustainable development-related *Goal Areas* of the City's General Plan including air quality and climate change, cultural resources, energy resources and healthy communities.

A.2.8 Housing

The BCP relies on the *Housing* narrative, images, diagrams and policies of the *Merced Vision 2030 General Plan* to guide planning, provision and development of future housing units in anticipation of Merced's increase population. The BCP includes a wide variety of housing types ranging from rural residential homes to high-density multifamily homes with densities of at least 20-units per acre, as is discussed in the Community Character Chapter of the Plan. All adopted policies and CEQA-based mitigation measures for the *Merced Vision 2030 General Plan* apply to the BCP planning area. Therefore, the BCP is consistent with housing-related *Goal Areas* of the City's General Plan including: new affordable housing construction, Housing conservation and rehabilitation, housing affordability, city coordination, quantified objectives, and providing equal opportunity for housing.

A.2.9 Noise

The BCP relies on the *Noise* narrative, images, diagrams and policies of the *Merced Vision 2030 General Plan* to address noise concerns in an expanding City as well as those from operations from established uses. The BCP does include or expand air and rail services, though as anticipated in the General Plan, the planning area will be served by arterial streets and be populated with sensitive populations. All adopted policies and CEQA-based mitigation measures for the *Merced Vision 2030 General Plan* apply to the BCP planning area. Therefore, the BCP is consistent with the Noise *Goal Area* of the City's General Plan.

A.2.10 Safety

The BCP relies on the narrative, images, diagrams and policies of the *Merced Vision 2030 General Plan* to guide urban growth and safety-related practices and operations. The concern about the Lake Yosemite Inundation Area was adequately discussed in the General Plan and associated Environmental Review documents. All adopted policies and CEQA-based mitigation measures for the *Merced Vision 2030 General Plan* apply to the BCP planning area. Therefore, the BCP is consistent with safety-related *Goal Areas* of the City's General Plan including disaster preparedness, seismic safety, flooding, fire protection, airport safety, crime and hazardous materials.

A.3 General Plan Amendments

The BCP proposes some implementation tools that vary from the *Merced Vision 2030 General Plan.* These changes are more of a clarification and refinement of general issues, than inconsistencies. Therefore, the BCP is substantially consistent with the City's General Plan.

Circulation-Related

1. To shift the location of the planned transit corridor from Bellevue Road to the proposed Mandeville "high-quality transit corridor," resulting in a more direct connection between the transit circle in the Bellevue Ranch Master Plan Development and the transit center at the UC Merced campus. This alignment also makes transit more functional, by placing the transit route in the midst of a mixed-use pedestrian oriented "walkable urban" setting, as opposed to Bellevue Road, whose setting will be "drivable suburban" and aligns with the planned regional *Merced Loop Road*.
2. Converting the intersection of G Street and Mandeville Lane from "limited-access" with right-in, right-out turning movements, to a signalized full-access intersection in order to allow the Mandeville Lane transit corridor to cross G Street and connect directly with the planned transit center on M Street in the Bellevue Ranch project.

Land Use-Related

3. The land use designations appearing in the *Bellevue Corridor Community Plan Illustrative Plan* and the General Plan's Official Land Use Diagram need to be superseded by the BCP's Land Use Character Map. This will be done by identifying the plan area of the BCP on the General Plan Land Use Diagram and referring the reader to the *Bellevue Community Plan* to see the adopted land use designations, which are unique to the BCP. Though unique, they are consistent with those contemplated by the General Plan. This alignment is shown in Table A-4.

Technical Appendix B, "Projects and Plans"

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B.1 – Summary Descriptions

Appendix B provides a preliminary overview of projects and plan documents related to the BCCP area. Lands within, adjacent to and near the Bellevue Community Plan (BCP) project have various levels of entitlements, including Specific Urban Development Plans, general plan land use designations, community plans, subdivided lands, and conditional use permits. Narrative descriptions, maps and tables are presented in this appendix to depict current and future land uses.

The section begins with two maps. The first map, "***Existing Land Uses, August 2012,"*** generally depicts the current arrangement of land uses through display of an aerial photograph (2008), along with icons for schools, a golf course, and a hospital. Merced's City limits and Sphere of Influence boundary of the *Bellevue Community Plan* is also delineated. To provide continuity of reference, these boundaries appear on all maps in this section. The second map, "***Index Boundary Map of Approved Projects and Plans,"*** generally depicts the boundaries of the lands that have land use entitlements, and to which a narrative written description is provided in this section.

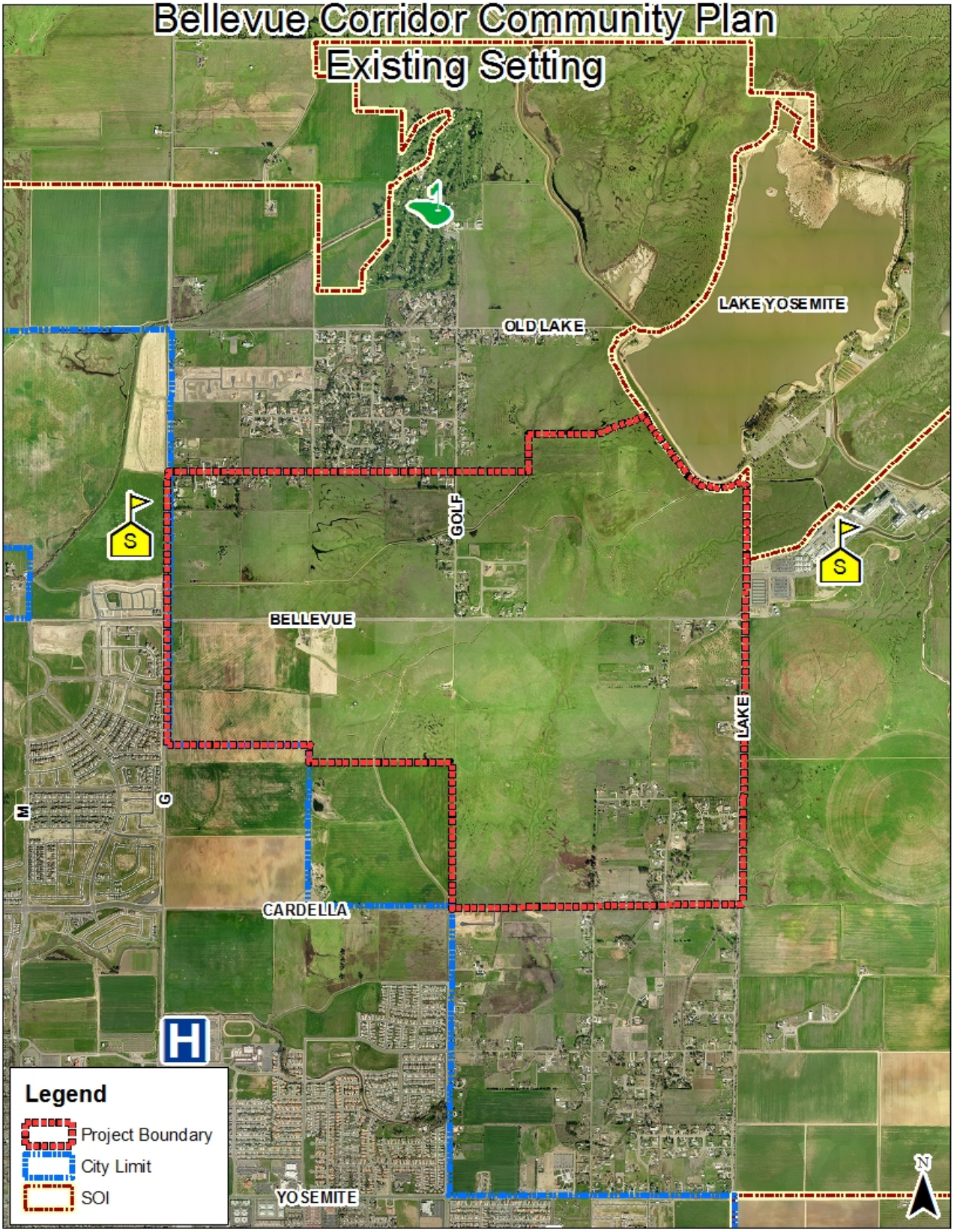
Following these maps are the ***written descriptions of the projects***. The list of projects and plans are grouped by: 1) those in the City of Merced, and 2) those in the currently unincorporated area of Merced County. Note that all of the approved projects and plans are located within the City of Merced's planned growth area, technically called the Sphere of Influence (SOI) boundary, with exception of a part of *Yosemite Lake Estates*.

While most projects described in this section have received formal action and entitlement of the land use and circulation plan by an elected or appointed body from Merced County or the City of Merced, those marked with an (*) alert the reader that some elements of the displayed images on the maps in this section have not yet received formal approval. These images are included here to depict preliminary interests of the property owner, and are called "illustrative plans."

Following the written descriptions is composite information in the form of the map, ***"Approved/Proposed Projects,"*** and the spreadsheet, ***"Table of Total Dwelling Units, Square Footage, and Acreage of Various Land Uses."***

Appendix B concludes with detailed images of the described projects.

B.1.1 Figure B.1, ***Existing Land Uses, August 2012***



B.1.2 Figure B.2, ***Index Boundary Map of Approved Projects and Plans***

Projects Within Current City Limits

B.1.3 Bellevue Ranch Master Development Plan

The Bellevue Ranch Master Development Plan (BRMDP) consists of 1,395 acres of mixed use development, including 4,843 to 6,648 residential units, retail commercial and office commercial uses, several schools and parks, and a fire station. Similar to traditional town development, the BRMDP conveniently places housing, retail commercial uses, public facilities, and office uses near each other. Development of the BRMDP is linked to an infrastructure phasing plan. Hence, much of the plan area cannot be developed at this time due to lack of streets, sewer, bridges, and other infrastructure necessities. Prior to the economic downturn of 2008, 1,618 lots were being prepared for home construction, of which approximately 600 were sited with homes, leaving 1,018 vacant lots ready for future development. A commercial lot at the corner of Cardella Road and M Street, as well as larger parcels along Bellevue Road, exist for future retail and office services.

The specifics of the BRMDP include:

- 561.7 acres of "Detached Standard Homes" with a DU range of 4-5 du/ac
- 334 acres of "Detached Patio Homes" with a DU range of 5.5-6.5 du/ac
- 75.9 acres of "Multi-Family" dwellings with a DU range of 10-22 du/ac
- 91.7 "Commercial" acres
- 23.1 "Office" acres
- 20.8 "Elementary School" acres
- 14.7 "Park and Transit Station" acres
- 78.2 "Park" acres
- 119.9 "Open Space/Creeks/Easements/Corridor" acres
- 43 "High School" acres
- 2.5 "Fire Station" acres

B.1.4 Paseo Development

The project has two primary land use components: 1) 8.5 acres adjacent to G Street designated Low-Medium Density (LMD) and designed for 85 zero-lot line single-family homes, and 2) 8.5 acres adjacent to Barclay Avenue designated "Neighborhood Commercial" and designed to include a small neighborhood commercial center with two buildings (one 20,000 s.f. and the other 19,400 s.f.), and associated parking lots. Though no specific tenants have been identified, uses could include small café-type or fast-food restaurants (no drive-thru) and retail type uses to serve the neighborhood, the future high school, and the UC Merced campus.

B.1.5 Bandoni-Sunset Annexation

This 76.1-acre parcel was annexed into the City in 2005, and includes the following land use designations and anticipated uses: 1) 10 acres of "Low Medium Density" Residential, 2) 20.5-acres of future "Neighborhood Commercial" land uses, and 3) approximately 45-acres of "Village Residential" land uses. The site will also include an off-street bicycle path extending from G Street to points east, north and south.

B.1.6 Absolute-Leeco Annexation and Subdivisions

The Absolute Leeco Project contains 100-acres of residential development and open space features. Two subdivisions have been approved for the site, and include the "Bright Subdivision" with 168 single-family residential on 40-acres, and the Palisades Park Subdivision with 155 single-family lots on 49 acres. The eastern portion of the project site includes approximately 12-acres owned by the City of Merced to be a future Neighborhood Park, and is situated next to a potential elementary school site. The site will also include off-street bicycle paths connecting with the Bandoni-Sunset Project.

B.1.7 El Capitan High School

Located at the southwest corner of East Farmland Avenue and G Street, *El Capitan High School* is the third high school of the Merced Union High School District to operate within the City of Merced. Construction of the new school began in June 2011 and is planned to open in August 2013. The 55-acre campus includes approximately 200,000 square-feet of building space in nine buildings, six of which are two stories. The site also contains 30 acres of playfields, a drainage basin, and parking for 370 cars. The new high school started with freshmen and sophomore in 2013, and will progressed one grade each year with full capacity in 2015. Total enrollment is anticipated to be 2,100 students.

B.1.8 Merced Medical Center Campus

The *Merced Medical Center* 30-acre campus is comprised of four related facilities including 1) Mercy Medical Center, 2) Merced Cancer Center, 3) Medical Office Building, and 4) future facilities.

<u>Mercy Medical Center</u>

Sited on approximately 17-acres, the Mercy Medical Center consists of an eight-story, 260,000-square-foot, 185-bed hospital (seven stories and one below grade level plus a mechanical penthouse), and a 12,350-square-foot power plant, a helipad, and approximately 950 parking

spaces. The hospital was to be built in 3 phases which would ultimately consist of over 600,000 square feet and have 460 beds. The first phase was completed in 2010.

Merced Cancer Center

Sited on 1.7 acres at the northeast corner of G Street and Mercy Avenue, the Merced Cancer Center was constructed in 2001. It contains 12,730 square feet and performs state-of-the-art cancer therapies.

Medical Office Building

Directly adjacent to Mercy Medical Center, the Mercy Medical Office Building (MOB), also known as the "Pavilion," is a 4-story, 65,500-square-foot medical office building on approximately 0.5 acres that connects with the new hospital on the first floor. It has outpatient services, pre-admitting and medical offices to support the new hospital, an outpatient ambulatory surgery center on the 4th floor, and offers laboratory services.

Future Facilities

There are approximately 200,000 square feet of medical office buildings and approximately 1,040 parking spaces proposed on a 10-acre site south side of Mercy Avenue.

B.1.9 Guardanapo Development

The Guardanapo Project consists of 102 acres consisting of: 1) approximately 196,000-square-feet of commercial offices on 18-acres, 2) 306 single-family homes on 56-acres, and 3) between 109 and 216 low-medium-density (duplex) residential units on 17.63 acres. The site is presently vacant.

B.1.10 Hunt Annexation / Moraga Subdivision

The Moraga Development consists of three land use types on 117-acres, including: 1) 102 acres of 520 detached single family homes, 2) a conceptual 14-acre multi-family site possibly holding 289 dwelling units with a density of 20.18 units/acre, and 3) open space features including a 7.5 acre community park. The park is constructed as are several homes, however, most of the site remains vacant.

Projects Between Merced City Limits and SOI Boundary

B.1.11 UC Merced Long Range Development Plan (LRDP)

The University of California, Merced campus opened in Fall 2005. By Fall 2012, Campus population is expected to reach over 5,000 students. By 2020, the student population is forecasted to exceed 11,000, and the faculty and staff population will exceed 3,200. At build-out, in the year 2035, the campus is expected to have a student population of 25,000, a staff and faculty population of over 6,500, and other daily population of over 600. Approximately 12,500 of the students will be housed on campus.

The 815-acre campus site will be used for classrooms and instructional laboratories, faculty offices, libraries, research facilities, administrative offices, student services, performing arts, athletic and recreation facilities, a student center, on-campus housing, food services, support services, and parking. The goal is for the Campus to be self-sufficient to a great extent.

The LRDP organizes UC Merced into four academic campus districts (North Campus, Central Campus West, Central Campus East, and Gateway District) and four neighborhoods (Lake View, North Neighborhood, Sierra View, and Valley View). The campus features a network of irrigation canals and two topographical land depressions or "bowls" which will serve as open space as well as stormwater retention basins. The districts and neighborhoods are generally organized around the two bowls. Campus development is described in block types that illustrate potential building types, scale, site coverage, and density within each district and neighborhood. Refer to Table B.2 for a summary of block types. Anticipated building heights range from 50 to 100 feet.

Table B.2. Campus Block Types

Block Type	Block Size	Land Use	Net Density	Gross Density*
Academic Core				
AC-1: Typical academic block	3 acres	Academic buildings	0.96 FAR	0.72 FAR
AC-2: Academic lab block	3 acres	Research buildings	0.96 FAR	0.72 FAR
AC-3: Main Street block	3 acres (1.5 academic, 1.5 residential)	Academic buildings, student services, student apartments	Academic: 1.5 FAR Residential: 60 units/acre	Academic: 1.12 FAR Residential: 45 units/acre
Gateway District				
G-1: Industrial-research block	3 acres	Industrial research buildings	0.45 FAR	0.34 FAR

Table B.2. Campus Block Types				
Block Type	**Block Size**	**Land Use**	**Net Density**	**Gross Density***
G-2: Industrial-research block	3 acres	Industrial research buildings	0.96 FAR	0.72 FAR
Student Neighborhoods				
SN-1: Townhouse and stacked flats	4 acres	Residential apartments and open space	27 units/acre	20 units/acre
SN-2: Walk-up apartments	3 acres	Residential apartments, open space, and student services	35 units/acre	27 units/acre
SN-3: Residence hall buildings	4 acres	Residential apartments and open space	80 units/acre	60 units/acre
* Assumes 75% efficiency for streets.				

The LRDP describes a circulation system that includes a hierarchy of streets, malls, and trails on a tree-lined, pedestrian-oriented grid. Parking will ultimately be supplied at a rate of 0.62 spaces per student, however, a higher ratio is anticipated until the campus and transit systems mature. The campus circulation system will be further highlighted in the complete streets, right-of-way, and transit priority project background studies.

Physical Design Framework

The UC Merced Physical Design Framework outlines principles and standards to advise campus-level project approvals. Framework objectives are structured around interconnected environmental design, community, and planning principles as well as the UC Merced administrative and committee structure for the planning process. The Framework provides guidance for architectural elements, color and materials, and landscaping. Additionally, it describes the campus design approval process and the role of various campus committees in development review and decision-making.

B.1.12 University Community Plan (UCP)

Today, the University Community Plan consists of 1,951 total acres, with ownership divided between two entities. The portion of the University Community Plan area located north of Cardella Road consists of 833 acres and is owned by the University Community Land Company LLC, a not-for-profit organization composed of the Virginia Smith Trust and the University of California. The portion of the University Community located south of Cardella Road (extended) consists of 1,118 acres and is owned by LWH Farms, LLC.

A University Community Plan (UCP), for a different boundary than today's UCP, was adopted by Merced County in December 2004. The Merced County Board of Supervisors adopted the UCP

(also called a "Specific Urban Development Plan" or "SUDP") and associated environmental impact report for the development of a University Community, sited adjacent and south of the UC Merced Campus. Under this adoption, the UCP covered 2,133 acres and consisted of high-, medium-, and low-density housing; commercial buildings; buildings to house research and development; and parking, parks, schools, and open space. The UCP was designed to provide over 11,000 housing units and house over 30,000 people.

In 2009, due to the need to shift boundaries as a result of protecting habitat resource lands, the northern portion of the UCP was revised and an associated EIR prepared. This revised plan and environmental review was adopted by the University of California Board of Regents in 2009. No application for review and/or action by Merced County occurred regarding this revised plan, however.

B.1.13 Yosemite Lake Estates

The *Yosemite Lake Estates* project involves a 655-acre "Specific Urban Development Plan (SUDP) Study Area" created in 2004. The proposed project, as recently proposed for modification, consists of 361 developable acres located to the west of the Crocker Huffman Canal, as well as 475 "protected open space" acres on its east side to the shore of Yosemite Lake. In action by the Merced County Board of Supervisors on July 31, 2012, authorization was granted to initiate preparation of a community plan on this revised project area. The plan is anticipated to include: 1) 278 acres for 1,388 detached single family homes, and 2) 83 acres of non-residential uses including: a) 32-acres for Park and Open Space, b) 10-acre School Site, c) 6-acre Community Center Clubhouse & Neighborhood Commercial Uses, and d) 20-acres for Collector Roads and Parkway. This most recent plan has not been reviewed by the City of Merced and is not consistent with the "illustrative" plan shown on the City's *Merced Vision 2030 General Plan* adopted in January 2012.

B.1.14 Vista Del Lago

Vista Del Lago is a 58-lot residential subdivision on 75.7 acres and a 71-acre Remainder Parcel on a total of 146.7 acres of land. Lots are one acre or more in size. The site is currently vacant and the map is set to expire on April 4, 2014.

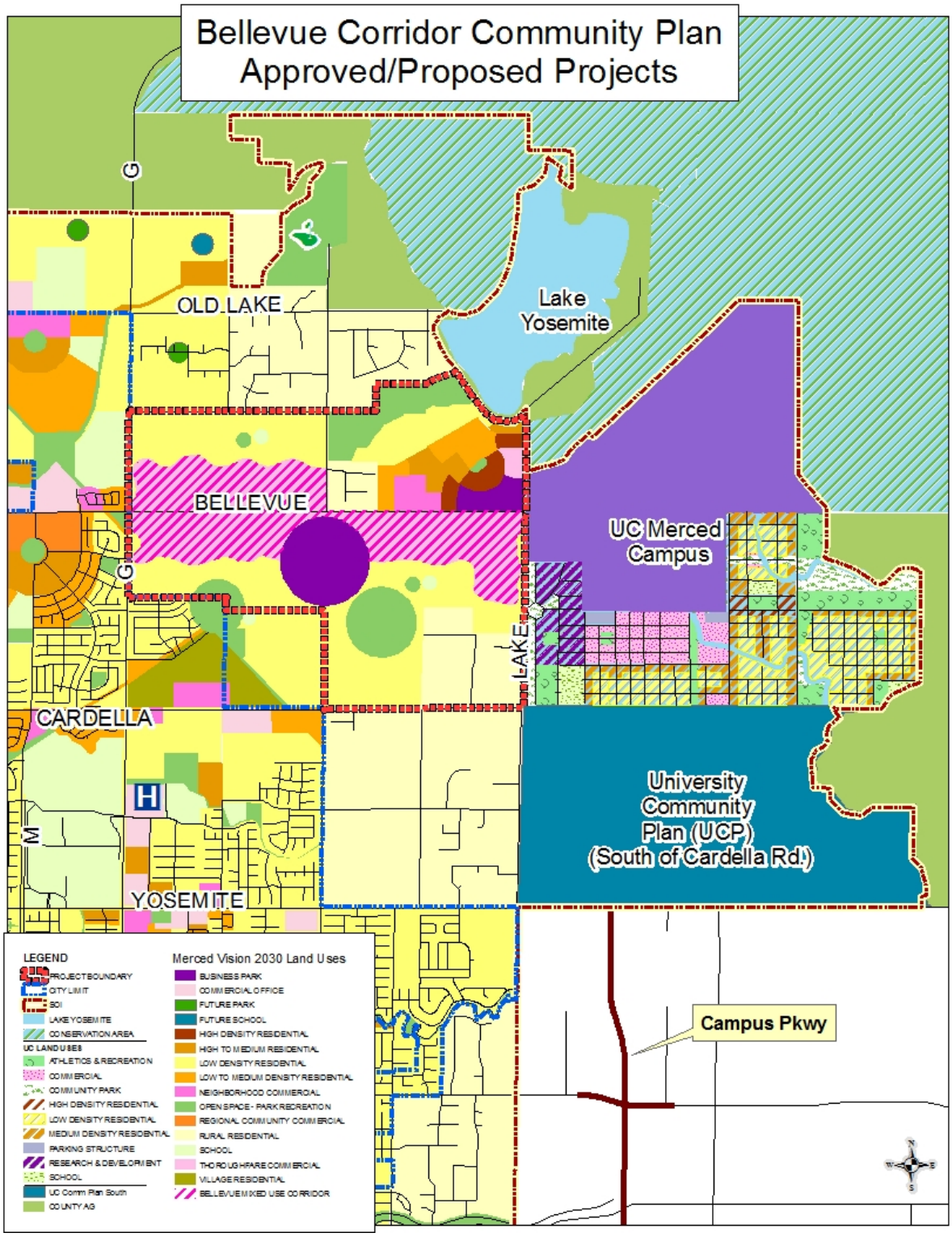
B.1.15 West Hills Estates

West Hills Estates is a development located on the northeast corner of Bellevue Road and Golf Road. The 30.4-acres site was approved for subdivision into 26 rural residential lots, approximately 1 acre each. To date, there are approximately 4 developed lots.

B.1.16 Sorrento

Sorrento is an 8 one-acre lot subdivision on the southeast corner of Gardner Road and Cardella Road with improvements on the ground. The development includes a 12.2 acre remainder lot since the drainage feature in the middle of the property was identified as wetland habitat by the California Department of Fish and Game.

B.1.17 Figure B.3, ***Composite Map of Approved Projects and Plans***



B.1.18 Table B.3, ***Table of Total Dwelling Units, Square Footage, and Acreage of Various Land Uses***

	Detached			Attached			Office [3]		Commercial	
PLANS AND PROJECTS	DU	Acres	Density	DU	Acres	Density	Sq.Ft.	Acres	Sq.Ft.	Acres
Bandoni Sunset GP[8]	45	4.5	10	810	45	18	0	0	313,000	20.5
Bright Homes Map	168	39.8	4.2	0	0	0	0	0	0	0
Guardanapo GP	306	56	5.5	216	17.6	12.3	196,000	18	0	0
Bellevue Ranch [1, 5, 7]	4,533	896	4.5	1,216	76	16	501,000	23	1,403,000	92
Mercy Medical Center (MMC) [6]	0	0	0	0	0	0	600,000	17	0	0
Mercy Cancer Center	0	0	0	0	0	0	12,730	1.7	0	0
Merced Pavilion (MOB)	0	0	0	0	0	0	65,500	0.5	0	0
Future MMC Expansion	0	0	0	0	0	0	200,000	10	0	0
Moraga Map	520	102	5	0	0	0	0	0	0	0
Palisades Park Map	155	48.9	3.2	0	0	0	0	0	0	0
Paseo Map and GP	6	0.8	8	85	8.5	10	0	0	39,400	8.5
Vista Del Lago	58	75.7	0.8	0	0	0	0	0	0	0
West Hills Estates Map	26	30.4	0.9	0	0	0	0	0	0	0
Yosemite Lake Estates	1,388	278	5	0	0	0	0	0	15,000	6
University Community										
Towncenter - Mixed Use Area [4]	0	0	0	540	N/a[8]	N/a[8]	313,600	7.5	183,000	7.5
Towncenter - Other Areas	0	**0**	0	1,418	45	30	292,700	5	130,700	8
Research and Development Use							2,308,300	71		
Other UCP Areas [2]	7,385	890	8.3	2,274	85	26.8	140,000	9	328,400	21
Total	**14,590**	**2,422**	**6.0**	**6,559**	**277**	**23.7**	**4,629,830**	**163**	**2,412,500**	**164**

Table B.3 Notations:

1. Includes all existing and planned amounts.

2. Data extrapolated from 2009 EIR/EIS for the 2009 UCM LRDP & UCP, Table 2.0-6, Page 2.0-41.

3. As a unique use, the *Research and Development Use* is "called-out" under the Office Category. The R&D site is located west of the Town Center.

4. These amounts are in addition to "Towncenter-Other Areas" and "Other UCP Areas". The 15-acre area is divided between office and commercial uses.

5. Includes 2529 "detached standard" units (562 ac) and 2004 "detached patio" units (334 ac) at density of 4.5 and 6 DU/acre respectively.

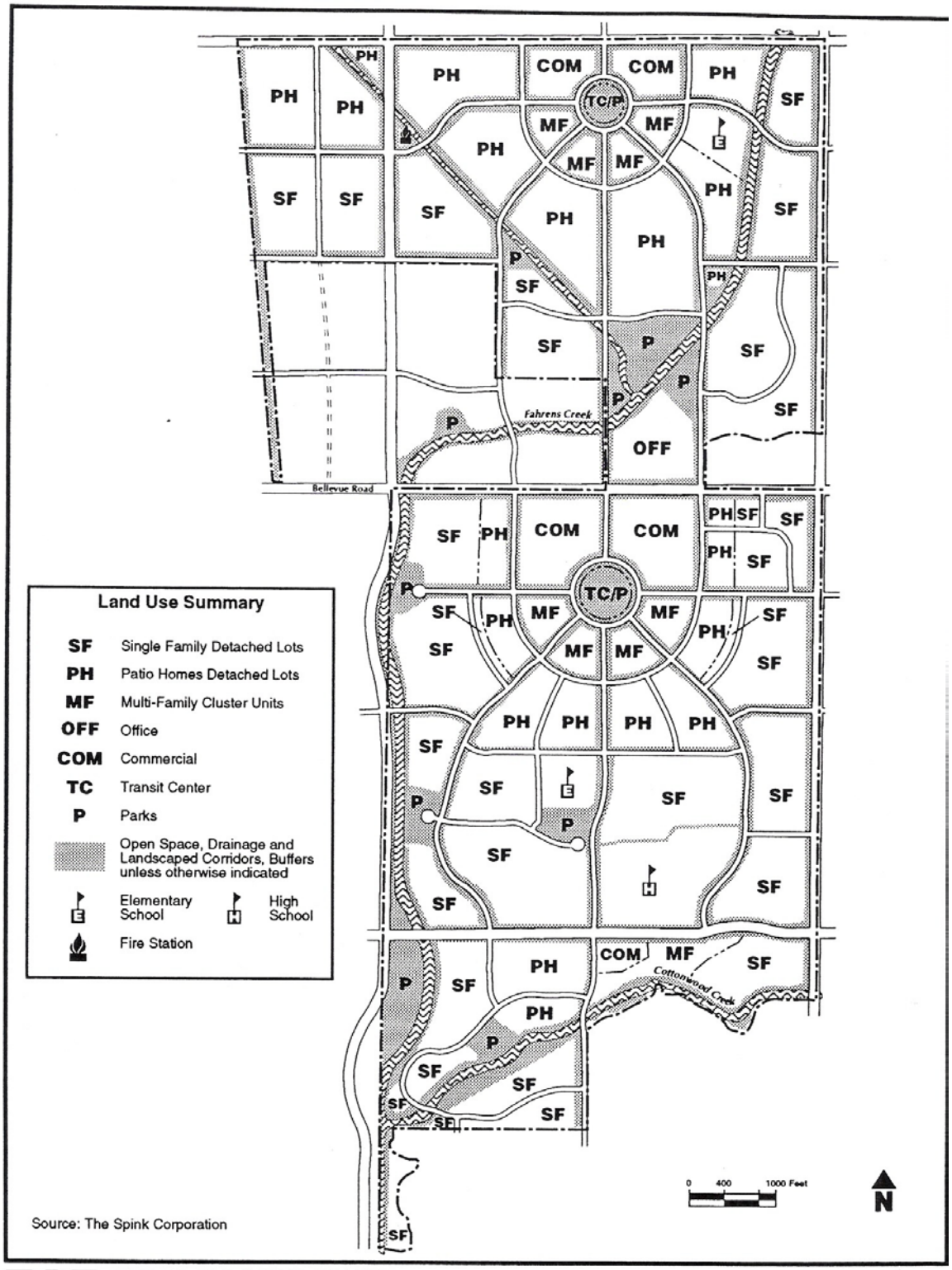
6. Currently at 260,000 sq. ft., long-term 600,000.

7. A FAR of 0.5 was used to estimate future office use, and a FAR of 0.35 was used for commercial. (In other cases, acreage based on submitted plans/documents.)

8. Part of 15 acre mixed use area. Acreage included under Office and Commercial.

B.2 – Images

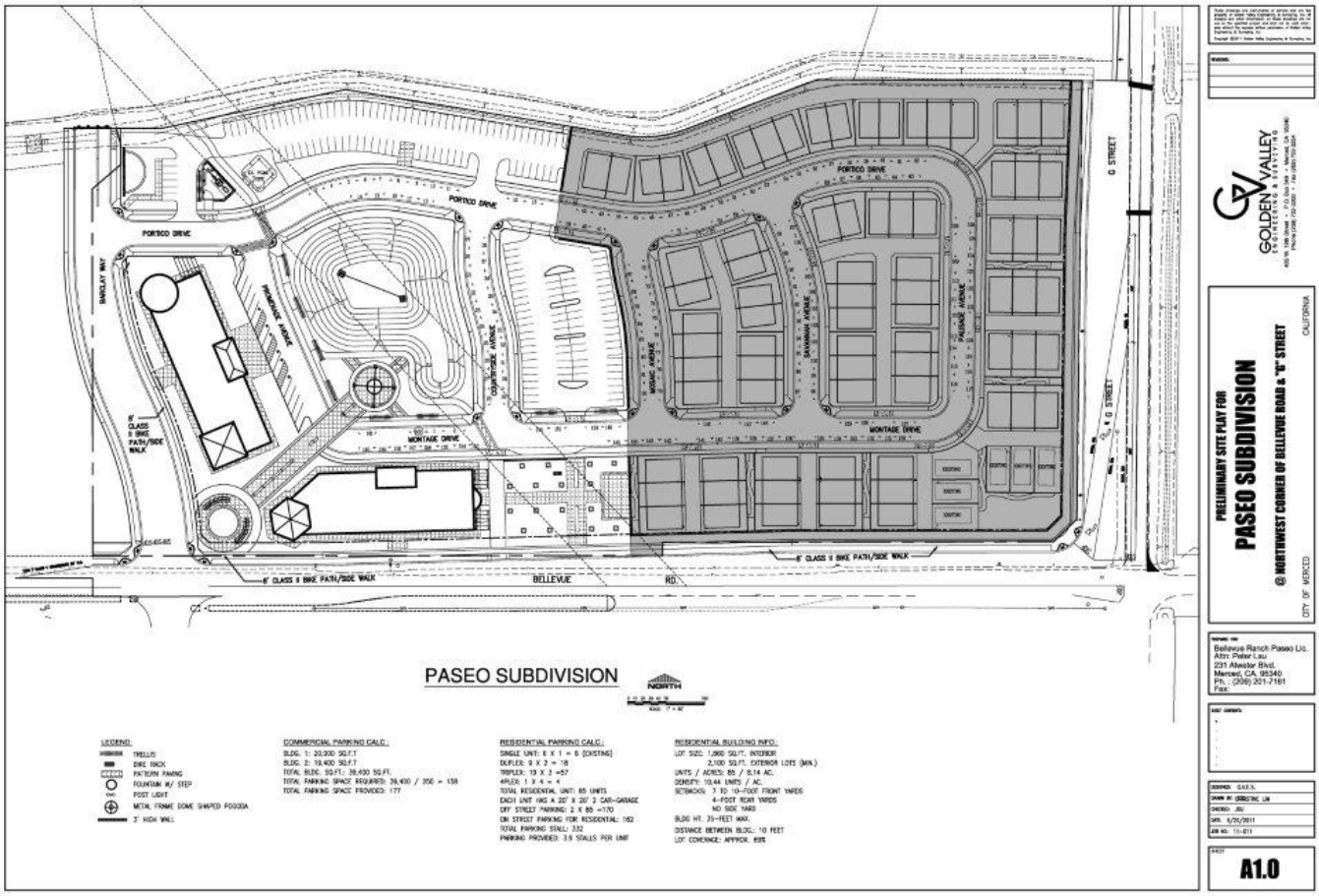
B.2.1 Bellevue Ranch Master Development Plan:



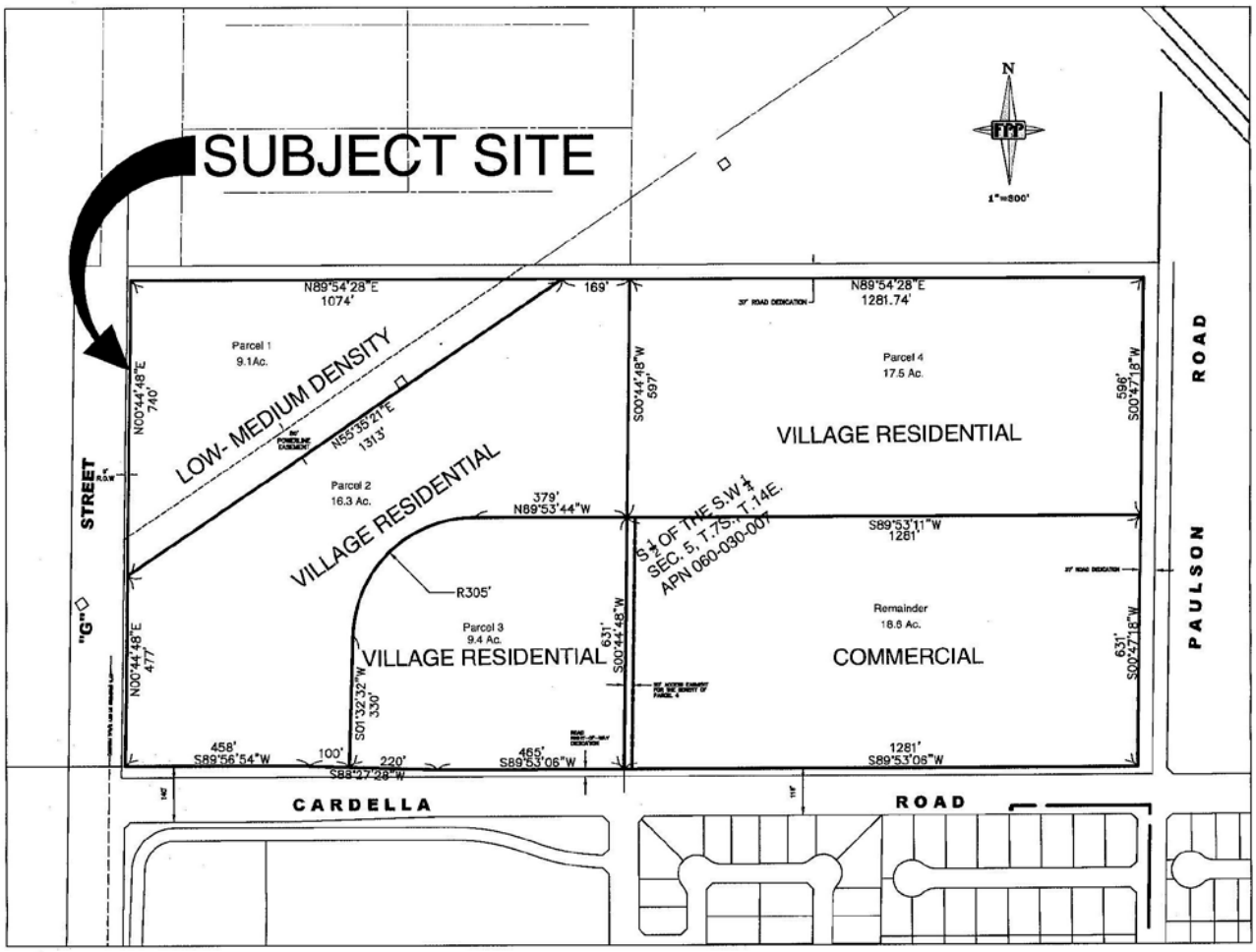
WILLDAN ASSOCIATES
ENGINEERS & PLANNERS

Figure 4.1-2
Conceptual Land Use Plan

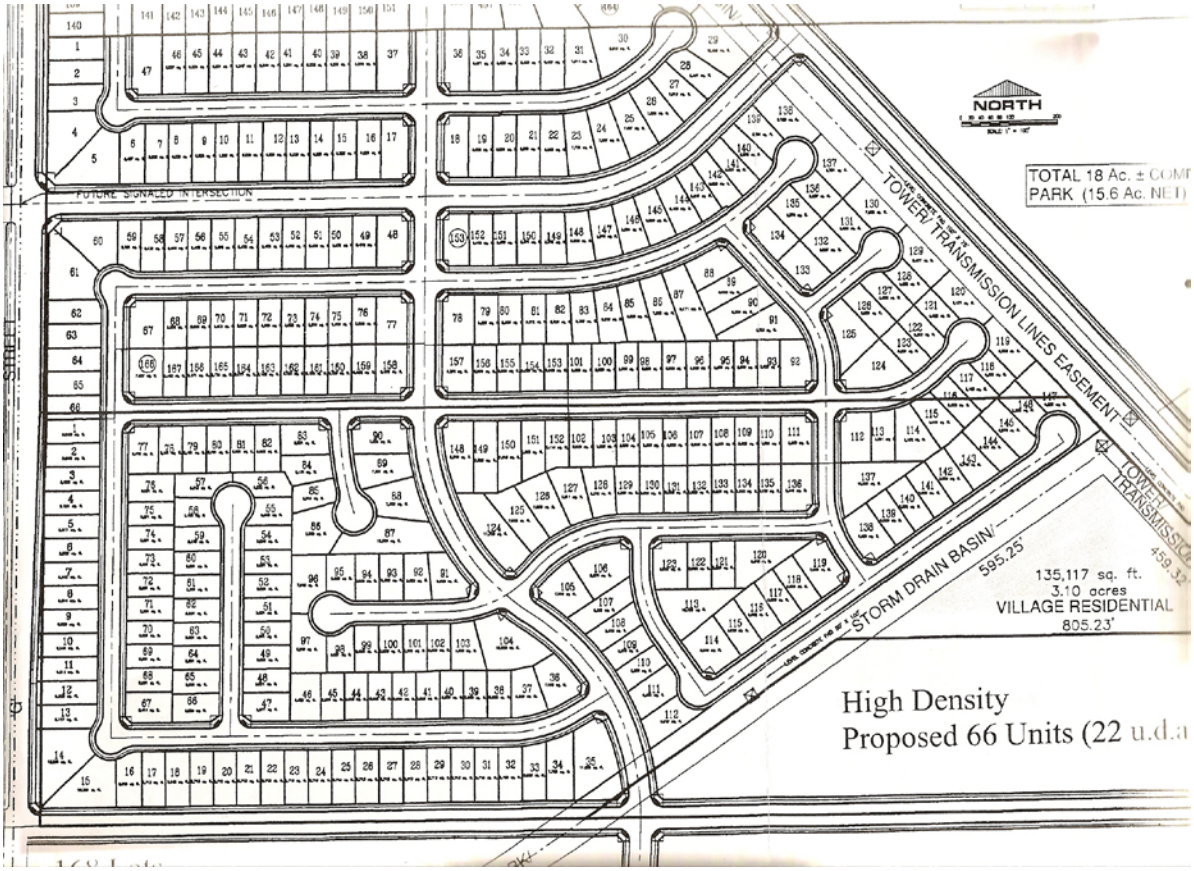
B.2.2 Paseo Development



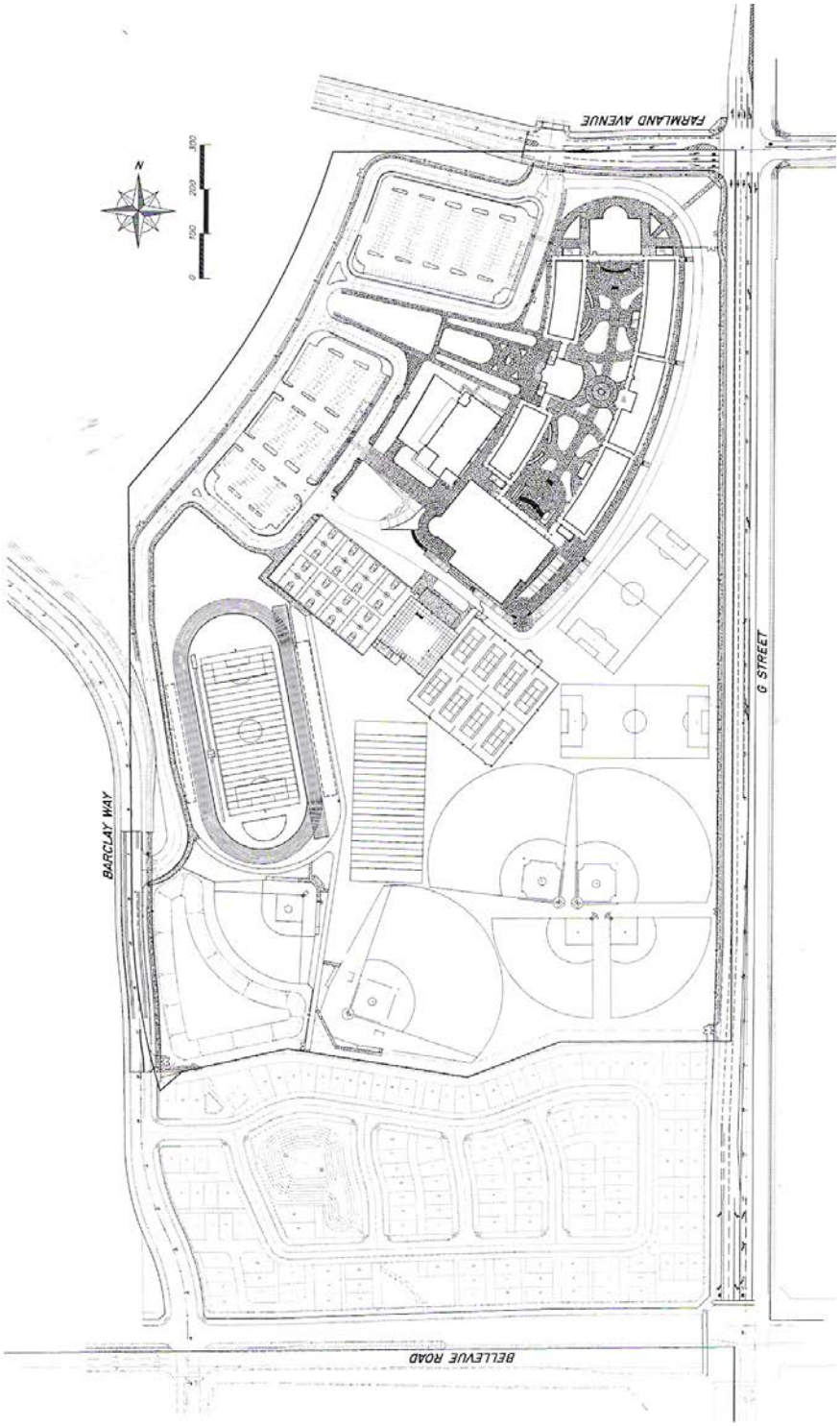
B.2.3 Bandoni-Sunset Annexation



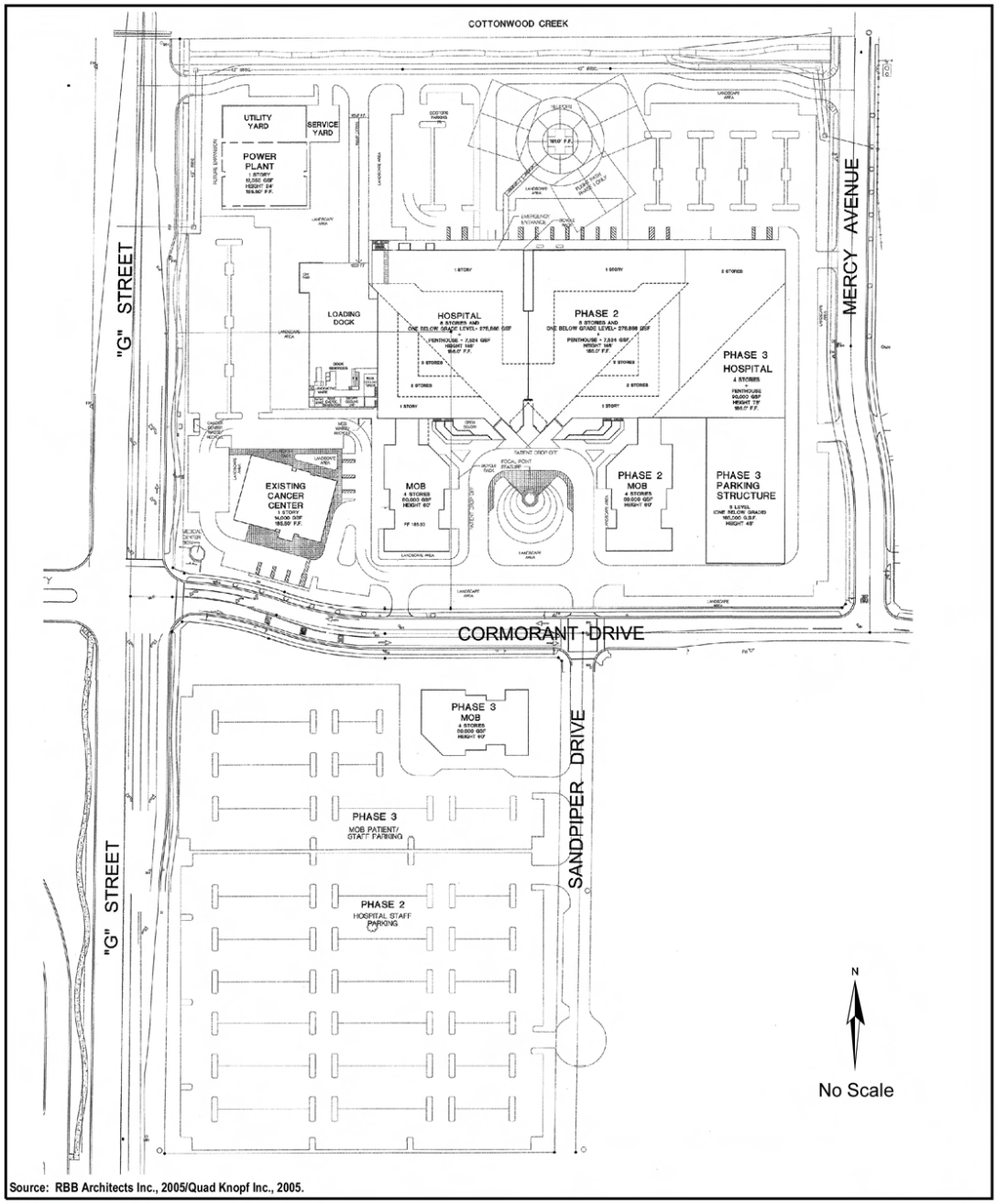
B.2.4 Absolute-Leeco Annexation and Subdivisions



B.2.5 El Capitan High School



B.2.6 Merced Medical Center Campus (All 3 Phases)



Source: RBB Architects Inc., 2005/Quad Knopf Inc., 2005.

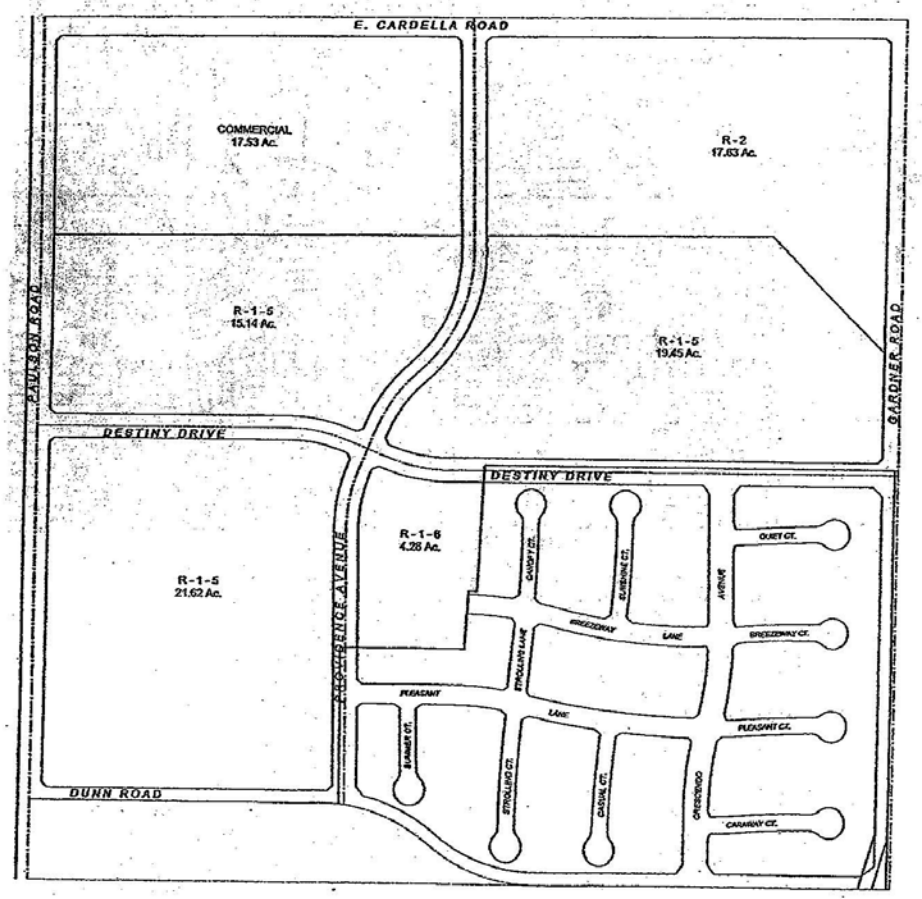
Quad Knopf

SITE PLAN

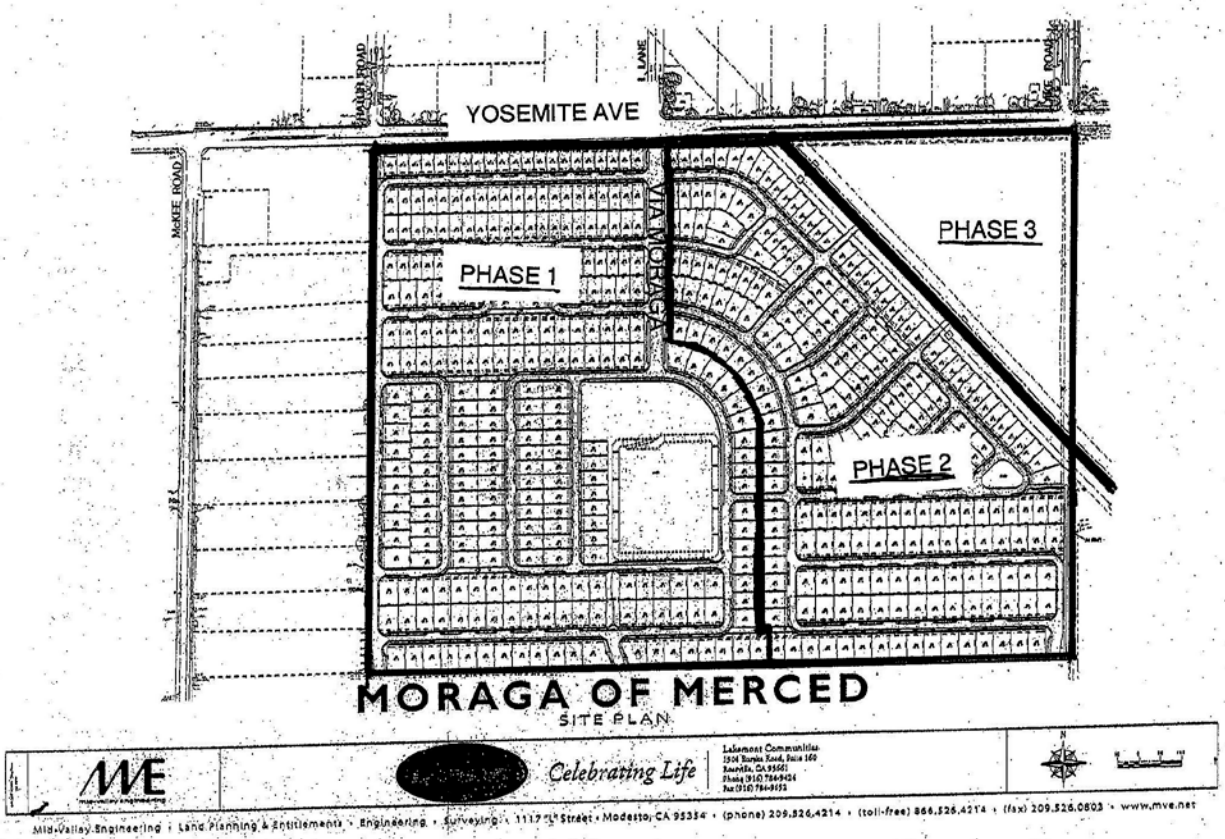
Figure 2-2

Job No. 04385

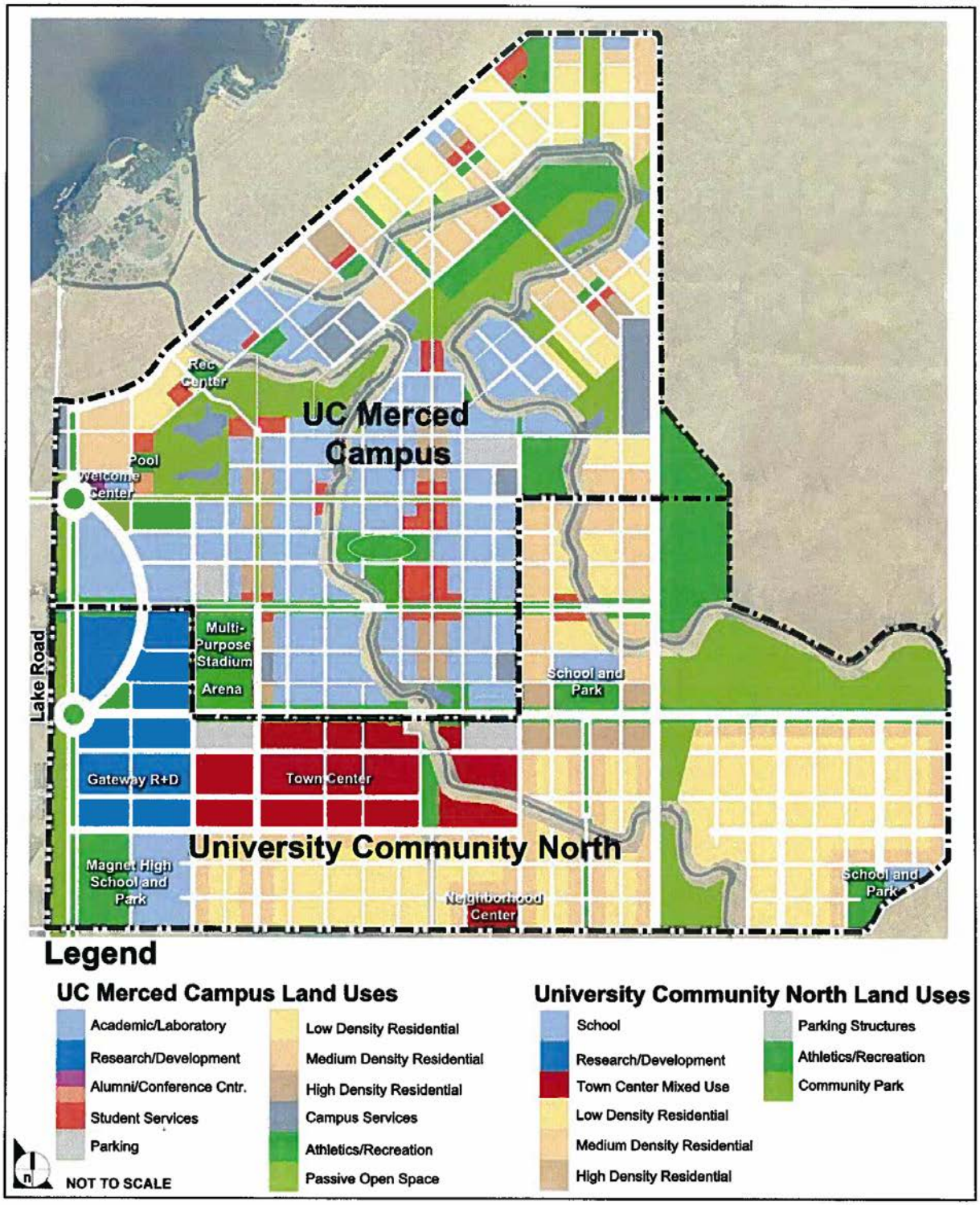
B.2.7 Guardanapo Development



B.2.8 Moraga Development

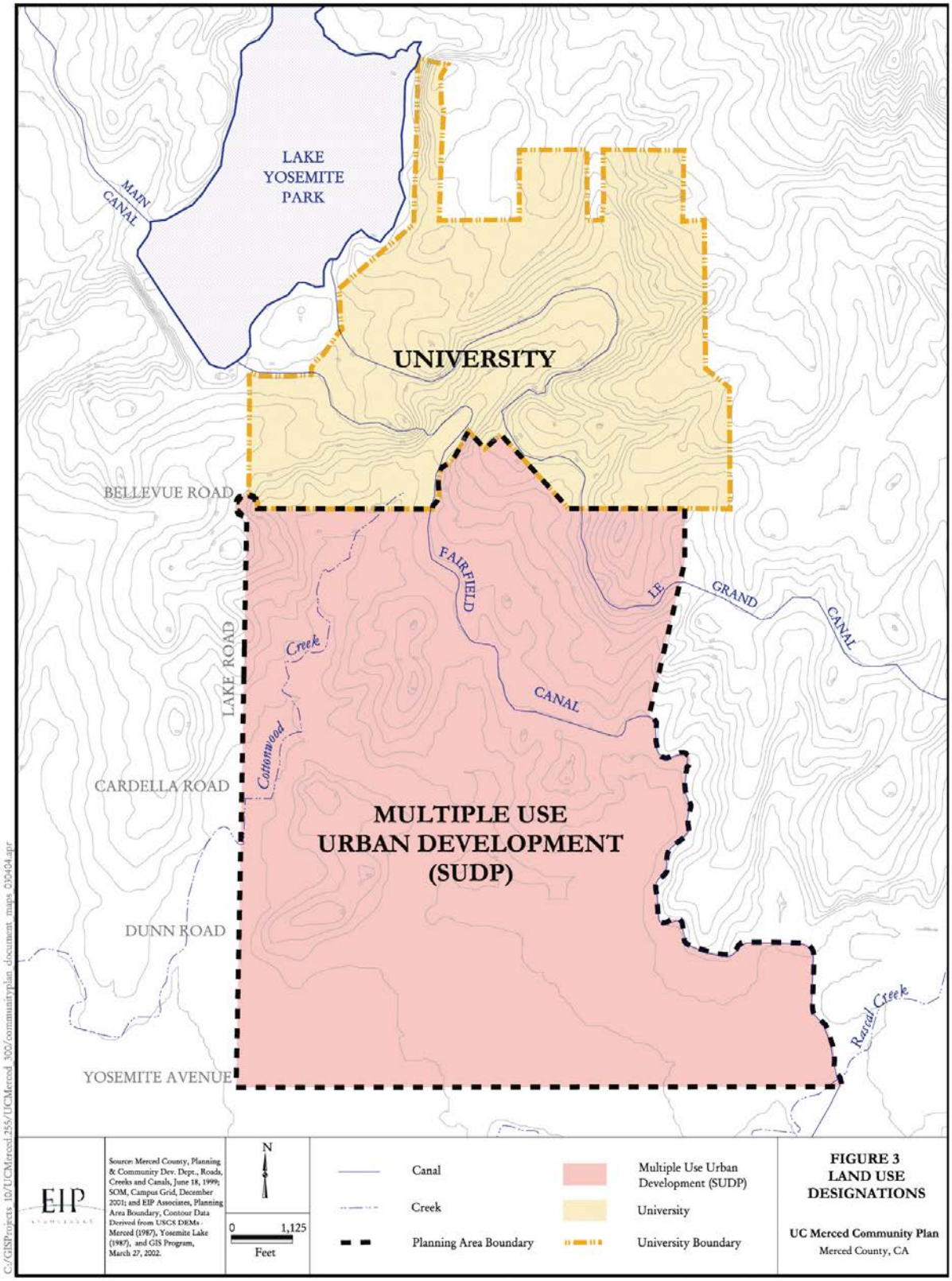


B.2.9 UC Merced Campus and Northern portion of University Community Plan (2009)

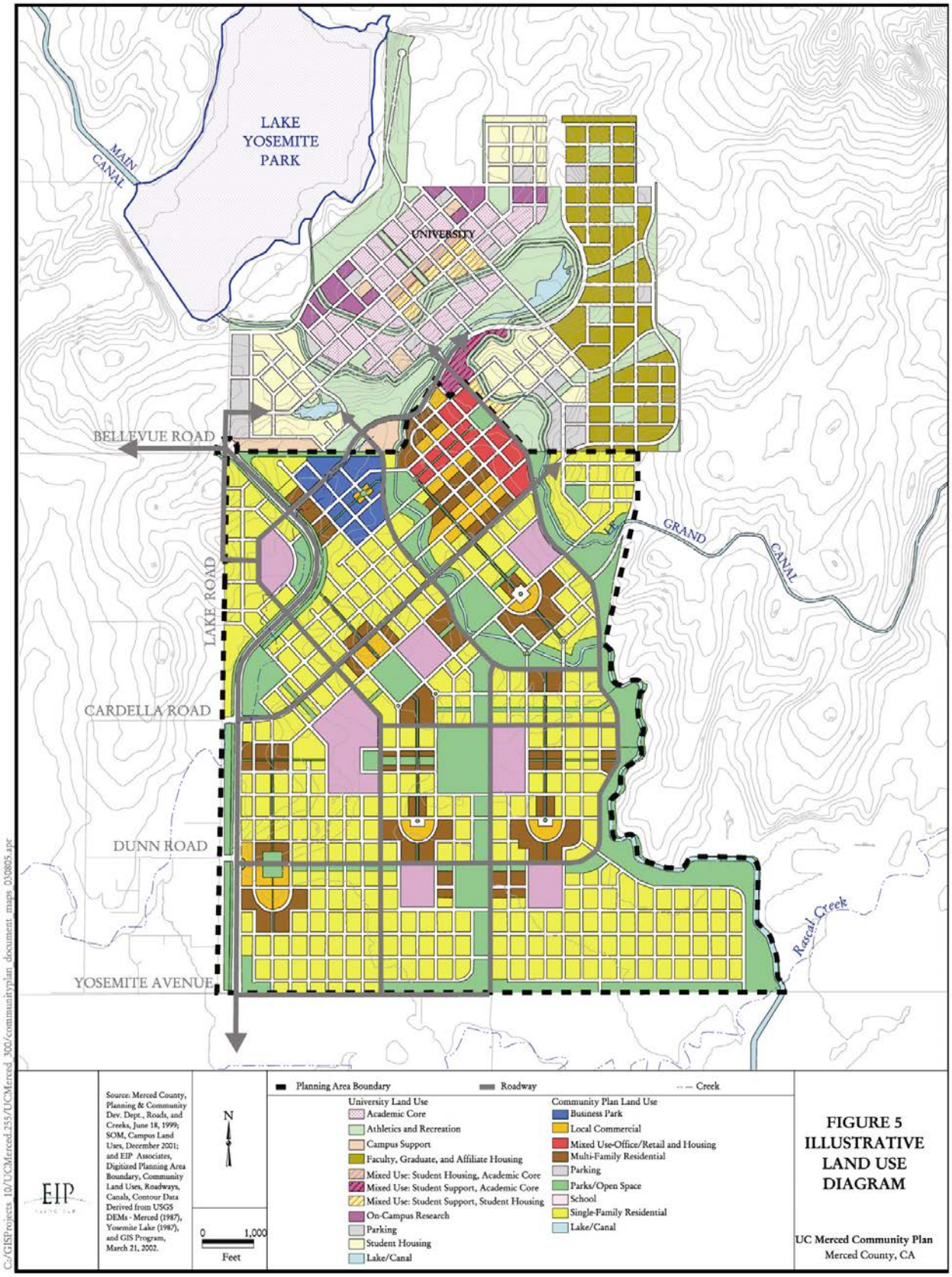


SOURCE: UC Merced - December 2011

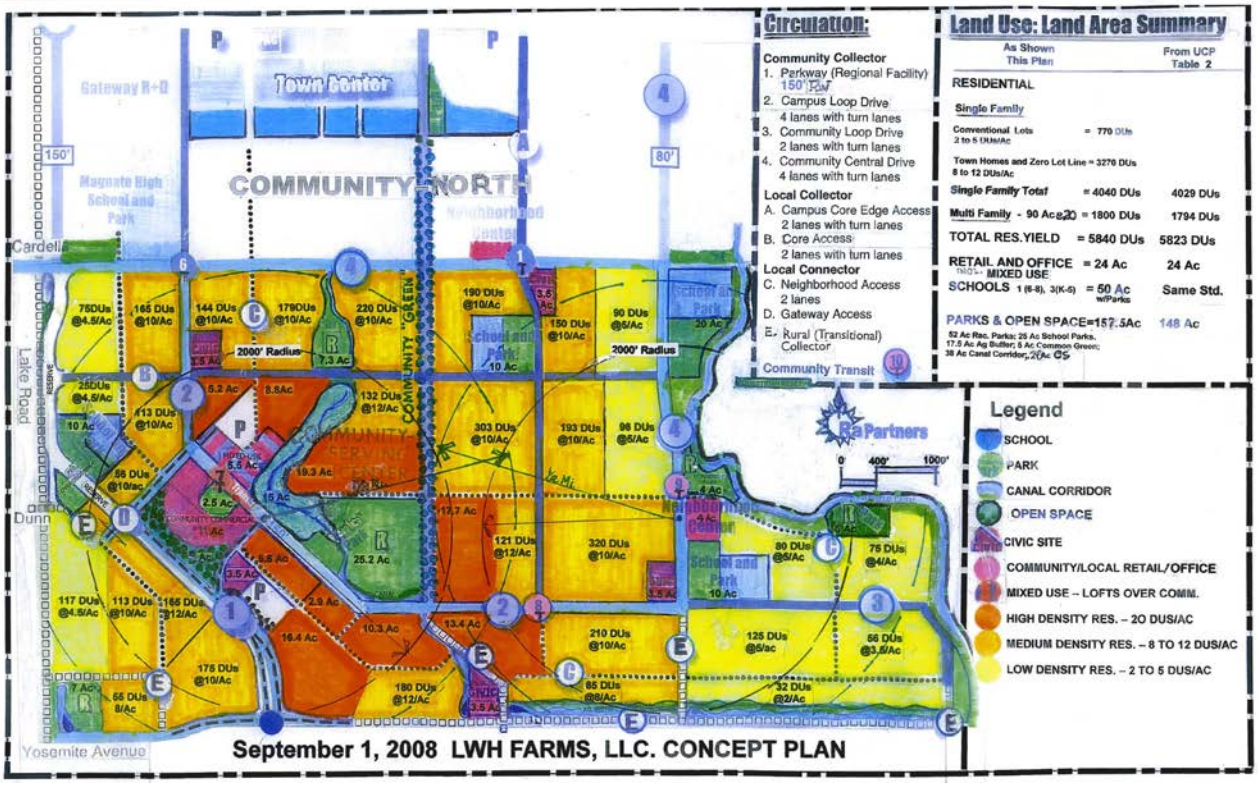
B.2.10 University Community Plan (2004), Image #1



B.2.10 "Illustrative" University Community Plan (2004), Image #2

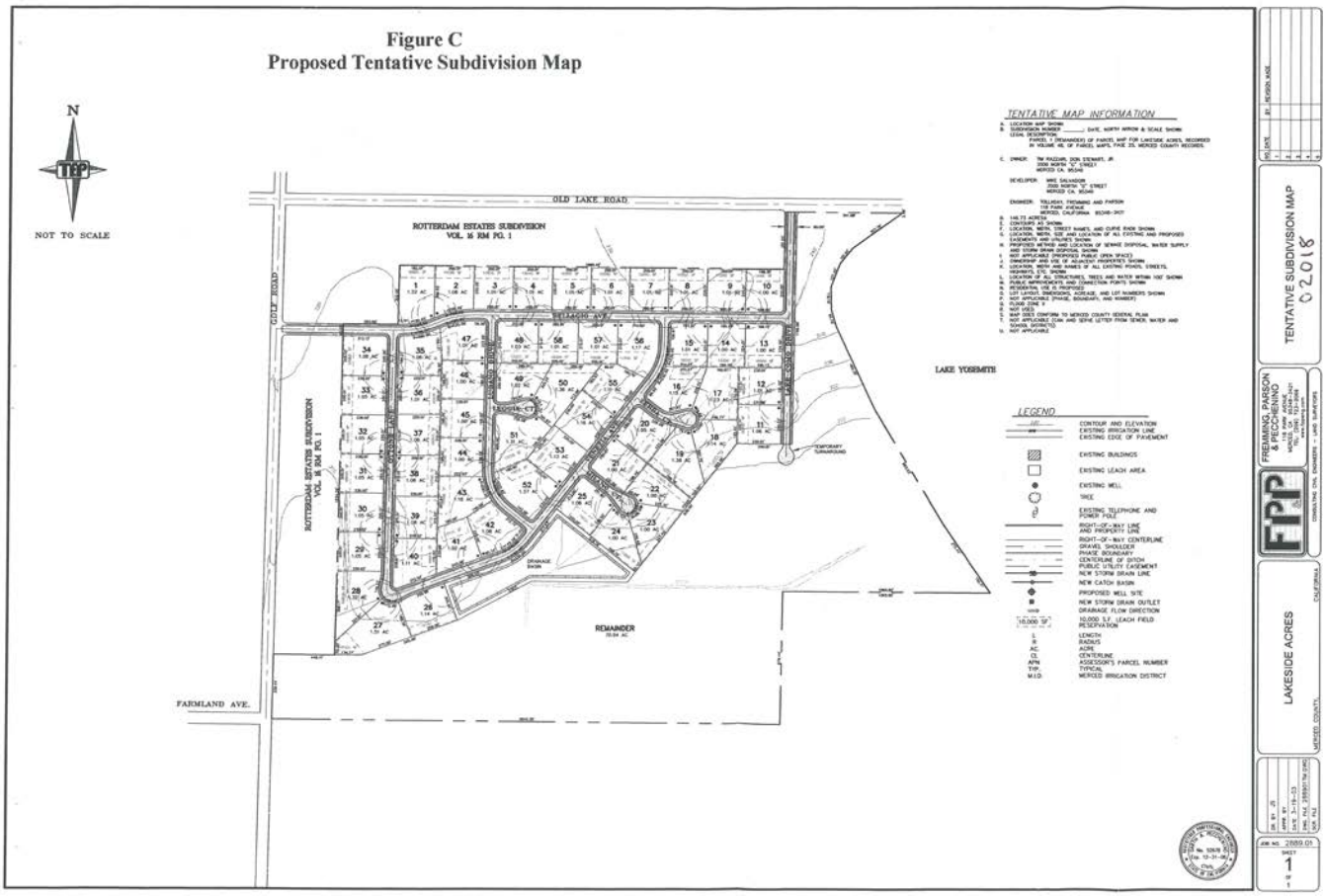


B.2.10 "Illustrative" University Community Plan / So. of Cardella Road (2008), Image #3

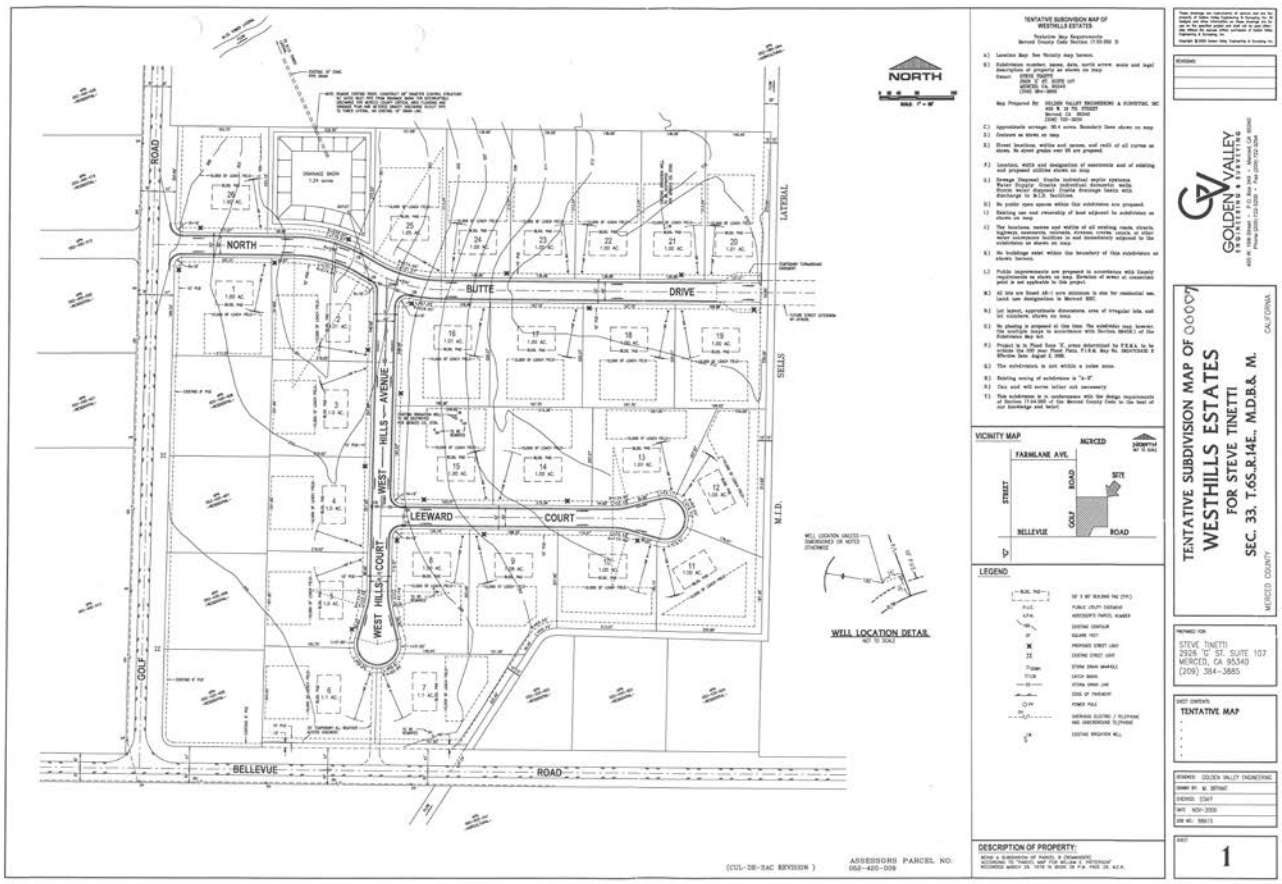


B.2.11 "Illustrative" Yosemite Lake Estates

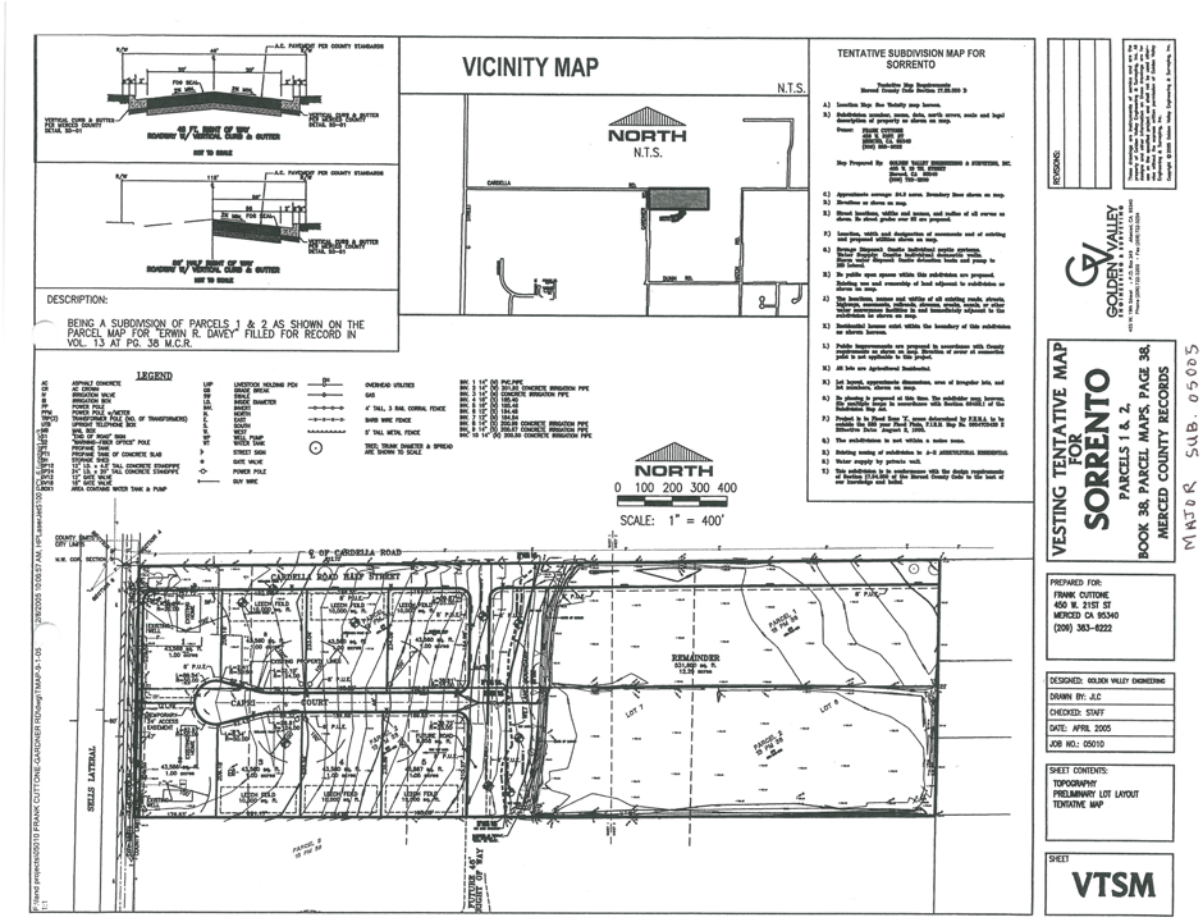
B.2.12 Vista Del Lago



B.2.13 West Hills Estates



B.2.14 Sorrento



Technical Appendix C, Key Goals, Policies and Implementing Actions of the *Merced Vision 2030 General Plan*, including related BCP Policies

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C.2 Urban Design (Vision and Urban Design)
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C.3 Transportation and Circulation (Mobility)
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C.4 Open Space, Conservation and Recreation
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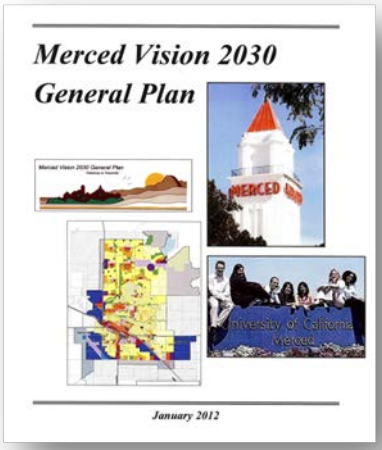
C.1 Overview of Policy Arrangement

To assure that the *Bellevue Community Plan* (BCP) was crafted in a manner consistent with the *Merced Vision 2030 General Plan*, Technical Appendix C lists General Plan policies and implementing actions that guide the crafting of the *Bellevue Community Plan*, and form the foundation upon which new policies were written to apply specifically to the BCP.

Use of the *Merced Vision 2030 General Plan* goals and policies in this manner assures that the BCP is consistent with the City's General Plan.



Policies are arranged similar to the chapters of the general and community plans, and include:

- Urban Design
- Transportation and Circulation (Mobility)
- Open Space, Recreation and Conservation
- Land Use (Community Character)
- Urban Expansion
- Public Facilities and Services
- Sustainable Development

C.2 Urban Design

C.2.1 General Plan Goal and Policy Guidance

GP Goal Area UD-1: Transit-Ready Development/Urban Villages

- The Focus of New Development will be Mixed-use, Pedestrian and Transit-Friendly Communities
- Develop Design Principles for New Communities (especially near UC Merced) to Encourage Job-Generating Uses

GP Goal Area UD-2: Overall Community Appearance

- Establish Gateway Design Standards
- Require all New Utility Lines to be Placed Underground

C.2.2 Transit Ready Development or Urban Villages

Urban Design Policy UD-1.1

The fundamental building block of the Plan is the Village, a compact, mixed-use district that will accommodate projected growth, maintain Merced's present quality of life and help ensure its continued economic vitality. Villages achieve these goals by encouraging pedestrian and transit travel, and by minimizing single-use, low density developments that generate traffic congestion, air pollution, a scarcity of affordable housing, monotonous landscapes and poor utilization of environmental and land resources. The City of Merced has established the "Urban Village" model (also known as "Transit Ready Development") as the basic design concept governing urban form in new growth areas. Its principles should be applied as much as feasible in new growth areas throughout the Merced urban area. For these reasons, the **Urban Design Policy *UD-1.1*** of the *Merced Vision 2030 General Plan* spotlights the need to ***Apply Transit-Ready Development or Urban Village Design Principles to New Development in the City's New Growth Areas.***

The Focus of New Development will be Mixed-use, Pedestrian and Transit-Friendly Communities

Implementing Action UD-1.1.a of the *Merced Vision 2030 General Plan* states, **"The focus of new development will be the "Urban Village," which are mixed-use, pedestrian- and transit-friendly communities within a one-square mile area."** Villages should include a mixture of parks, shops, a variety of housing types, and civic uses. Villages combine these uses within a convenient distance, making it easier for residents and employees to travel by transit, bicycle or foot as well as by car. Village sites should be located on or near planned transit segments and provide a physical environment that encourages pedestrian and transit travel.

BCP Policy: UD-1.1: Orient buildings to address the street.

Creating a physical environment that encourages pedestrian and transit travel is more than simply providing a sidewalk. Actual use is based on the design of adjacent uses and proximity to a variety of uses. Positioning buildings next to the street and sidewalk (addressing) creates a pleasing environment for the pedestrian where they can enjoy proximity to building entrances, window displays, architectural interest, and other people. This context attracts pedestrians and provides a worthwhile return of the City's investment to construct and occupy space within a public right-of-way.

Develop Design Principles for New Communities (especially near UC Merced) to Encourage Job-Generating Uses

Implementing Action UD-1.1.h of the *Merced Vision 2030 General Plan* states, "**Develop special 'Urban Village' design principles to encourage more job-generating uses within the Urban Villages."** Special "Urban Village" designs should be developed to provide for increased opportunities for job-based land uses attracted by a university climate in some Urban Villages, especially in the northwestern area of the City, while still maintaining the basic concept of mixed-use, pedestrian and transit oriented communities. These "Urban Villages" may differ from others in the Community in the mixture of business park, research and development (also supported by Implementing Action UD-1.1.f), office, public/cultural uses, and retail uses within the Village Core areas instead of the retail/office/public facilities focus of other Villages which are more residential in nature.

BCP Policy UD-1.2: Seek to provide incubator-spaces for small businesses.

Through zoning, site design planning and economic development tools , seek to provide spaces throughout the planning area, but notably within the Mandeville Corridor, that offer office, retail and small-scale manufacturing incubator-sites for entrepreneurs who are attracted to a university setting.

BCP Policy UD-1.3: Strive to meet the commercial services of not only students, but the local community as well.

Serving a diversified market guarantees services and related activities year-round, not just during the academic schedule. A variety of retail outlets should be present in the BCP to reflect the interests of a diverse population.

BCP Policy UD-1.4: Seek to attract and retain entrepreneurs and UCM graduates.

Some of the most important meetings are spontaneous. Spontaneous meetings occur when paths intersect while traveling from one place to another or standing in line for coffee or lunch. Chance interactions have the qualities of being informative, creative, and social in an important way that reinforces relationships. The Bellevue Corridor should be a place that enables such interactions, such as:

Housing: To encourage the flow of ideas, the BCP should not only have places to meet, but a population to fill such space. The population in the BCP will include: 1) researchers expanding on current and new research and development; 2) students and graduates; 3) young families seeking new business or research opportunities; 4) those wanting to embrace a lifestyle of creativity with the incorporation of thoughts inspired by surrounding people; 5) entrepreneurs who wish to be part of an innovative community; and, 6) small business owners in an innovative community (restaurants, coffee shops, boutiques, apparel stores).

Events and Activities: Support and encourage farmers-markets for local farmers and shoppers, live music to showcase local talent, or other events available to community residents, hosted by local businesses throughout the BCP.

Pedestrian-Related Street Components: Develop streetscapes with ample amenities such as landscaping, shade trees, generous sidewalks, street furniture, signage, lighting, and art to promote pedestrian movement, community attractiveness, and informal meeting spaces. Done right, pedestrian-related street components can spark street-level interaction and maximize the potential for informal contact of the average person in a given public space at any given time.

Scale: To assure frequent interactions, ensure that pedestrian-scale design exists throughout the plan area, but particularly in highly populated areas. At the individual space level, indoor and outdoor spaces will be intimate and active enough to encourage people to meet or stop to engage when they encounter one another.

C.2.3 Overall Community Appearance

Urban Design Policy UD-2.2

Over the years, the City of Merced has developed a unique physical character and civic flavor. The City's compact form, tree shaded streets, well kept neighborhoods and extensive open space areas have contributed to its charm and attractiveness. To preserve and enhance this positive community appearance, the City has traditionally committed to a policy of civic improvement and beautification. For these reasons, the **Urban Design Policy *UD-2.2*** of the *Merced Vision 2030 General Plan* spotlights the need to ***Maintain and Enhance the Unique Community Appearance of Merced.***

BCP Policy UD-2.1: Development of private and public lands will seek to maintain existing topographical features.

The hilly terrain in the planning area is unique to the City of Merced and should be maintained. The vista and swale topography provide opportunities for open space corridors, curving roadways, and distinct place-making opportunities whether on public or private lands. Removal of large amounts of soil should be avoided; rather the development should fit the character of the land.

Establish Gateway Design Standards

Implementing Action UD-2.2.a of the *Merced Vision 2030 General Plan* states, "**Encourage joint City and County cooperation in establishing land use and development standards along all major gateways to the City."** Working in cooperation with the County, the City shall propose development standards for these city entrances and outline a strategy for implementation.

BCP Policy UD-2.2: Working in cooperation with the County, the City shall propose development standards for Bellevue Road and Lake Road.

Both Lake Road and Bellevue Road and adjacent environs should be constructed as important gateway roads. Development standards should include a unique roadway cross-section, appropriate siting and aesthetic architecture of adjacent buildings and required yard areas, a complementary street furniture zone (where appropriate), and landscaping both within and along the rights-of-way. The character of these streets should be unique and attractive, and be as much a gateway to UC Merced as a gateway to the City of Merced. Landscaping shall be included within these rights-of-way to create a Boulevard appearance.

Require all New Utility Lines to be Placed Underground

Implementing Action UD-2.2.e of the *Merced Vision 2030 General Plan* states, "**Expand the City's programs for undergrounding utility lines and require all new utility lines to be placed underground**." Working closely with PG&E and other utility companies, the City shall continue its efforts to place existing overhead electrical and communication lines underground. All new utility lines shall be placed underground.

C.3 Transportation and Circulation (Mobility)

C.3.1 General Plan Goal and Policy Guidance

GP Goal Area T-1: Streets and Roads

- Implement the City's Street Functional Circulation Plan
- Seek and Evaluate Collector Street Design Options
- Protect Right-of Way for Future Users
- Work with the County and Caltrans to Implement Area Expressways
- Adhere to Street Spacing Standards to Provide Smooth Traffic Flow
- Provide Multiple Streets to Local Destinations
- Promote Transportation System Management Strategies

GP Goal Area T-2: Bicycles, Pedestrians, and Public Transit

- Avoid Negative Impacts to Function of Transit Corridors
- Plan for a Transit Corridor to UC Merced
- Promote Land Use Patterns and Site Designs that Support use of Public Transit
- Provide Convenient Access to Transit
- Take a Long Range View of How Land and Site Planning can possibly Affect Future Public Transit Options
- Avoid Designs that Require Transit Passengers to Cross Major Streets
- Coordinate Bike Planning and Construction with UCM and Merced County

C.3.2 Streets and Roads

Transportation Policy T- 1.1

It is extremely important to coordinate circulation and land use planning. Street systems are intended to move motor vehicles but streets also are expected to provide access to nearby land uses. Smaller streets called upon to carry heavy traffic to major activity centers can create large circulation problems. Large streets carrying heavy traffic through residential or other sensitive land use areas can create significant conflicts. For these reasons, **Transportation Policy T- 1.1** of the *Merced Vision 2030 General Plan* spotlights the need to ***Design Streets Consistent with Circulation Function, Affected Land Uses, and All Modes of Transportation.*** Implementing actions include:

Implement the City's Street Functional Circulation Plan

Implementing Action T-1.1.b of the *Merced Vision 2030 General Plan* states, **"Whenever feasible, implement a system of arterials and higher order streets in new growth areas based upon the adopted concept of arterials/expressways and ensuring the development of 'complete streets' which address all modes of transportation."** The adopted concept of arterials/expressways is designed to carefully separate streets by circulation function, and locate land uses consistent with these functions. All streets should be designed as "Complete Streets" which address all modes of motorized and non-motorized transportation, including vehicles, transit, pedestrians, and bicycles.

BCP Policy M-1.1: Pursue the completion of the City's arterial grid network.

All proposed arterial streets within and adjacent to the BCP are essential roadways that need to be completed. Bellevue Road to serve as an urban arterial in the loop road system; Gardner Road south of Bellevue Road to connect the BCP, UCP and UCM with the Merced Community; Campus Parkway as part of the urban fabric to the east; and Cardella Road and Yosemite Avenue providing important east-west oriented linkages knitting the long-term growth areas of the City of Merced.

BCP Policy M-1.2: Examine the possibility to reduce the number of lanes on Gardner Road, Bellevue Road and Golf Road.

Inclusion of a broad range of transportation-related factors, such as the addition of side roads along both sides of Bellevue Road for local traffic may result in a finding that would support fewer through travel lanes on plan area arterial roadways. Complete a traffic impact analysis that considers the function of all transportation modes, land use patterns and both collector and arterial street designs to examine the potential to reduce the number of through lanes from 6 to 4 on Bellevue Road, from 4 to 3 on Gardner Road (between Bellevue Road and Foothill Drive), and from 4 to 2 on Golf Road (north of Bellevue Road).

Seek and Evaluate Collector Street Design Options

Implementing Action T-1.1.d of the *Merced Vision 2030 General Plan* states, **"Design and build residential collector streets that balance as effectively as possible competing needs to be safe and efficient."** The community needs to continue to seek and evaluate design options and other ways that might help to reconcile the competing functions of residential collector streets (to be safe for local neighborhood residents while being reasonably efficient traffic carriers). The City also needs to distinguish collector streets ("Major Collectors") that, because of certain characteristics, are likely as time passes to experience increasing traffic pressures and impacts on adjacent residential settings.

BCP Policy M-1.3: Update the City's Standard Designs to incorporate the special cross-sections for collector roads within the BCP.

The BCP includes several special collector-street cross-sections that were designed to reconcile the competing functions of streets, and include: Lake Road, Figure 21 & Figure 22; Mandeville Lane, Figure 19); Hatch Road, Figure 17; and Paulson Road/Hillcrest Avenue, Figure 16.

BCP Policy M-1.4: In consideration of existing Rural Residential neighborhoods, the use of design features such as traffic calming and street off-set designs should be utilized to minimize traffic impacts.

While urbanization along Bellevue Road will be attractive, functional and bring new services to the plan area, existing rural residential neighborhoods (for example, near Hillcrest Road and Farmland Avenue) will experience an increase in traffic on narrow roads without bike lanes or sidewalks, and with limited on-street parking. While connecting urbanized neighborhoods to existing neighborhoods makes sense at a macro level, the implementation of how this is accomplished needs to be considered. The policy guides future projects to include features that minimize traffic impacts that may occur as a result of urbanization near existing neighborhoods.

Transportation Policy T-1.2

Traffic-related problems including significant concerns over air quality in the Great Central Valley have helped to forge requirements for more and more inter-governmental cooperation and planning, often tied to prospective State and Federal funding. The City needs to remain active in these efforts, while also periodically reviewing its position within these procedures. For these reasons, **Transportation Policy T-1.2** of the *Merced Vision 2030 General Plan* spotlights the need to ***Coordinate Circulation and Transportation Planning with Pertinent Regional, State and Federal Agencies.*** Implementing actions include:

Protect Right-of Way for Future Users

Implementing Action T-1.2.c of the *Merced Vision 2030 General Plan* states, **"Identify a hierarchy pattern of major streets within the City's General Plan and Sphere of Influence areas, and work with the County of Merced and Caltrans to retain unimpeded future rights-of-way to accommodate the current general plan period and projected future growth."** It is extremely important that prospective right-of-ways (ROW's) be protected from permanent development whenever feasible, not only within the City and in its immediate growth areas but also in areas projected for longer term growth. This will benefit both City and County, in terms of reduced costs as well as potential efficiencies to be gained from sufficient roadways.

BCP Policy M-1.5: Work with Merced County to identify future right-of-way locations for plan area arterial and collector streets and intersections.

Collaboration between the City and County to define arterial street locations within the BCP should occur soon after its adoption to avoid development within these important community rights-of-way. The location of these roadways should be designed flexibly to avoid or minimize impacts to existing uses while (1) assuring adequate width will be provided in the long-term; and (2) minimizing impacts to natural resources such as topography, sensitive habitats and water features. Of particular note are the alignments of Bellevue Road, Gardner Road, Foothill Avenue, Hatch Road, and the intersections involving (a) Bellevue Road, Campus Parkway and Lake Road; and (b) Bellevue Road with Paulson/Hillcrest (extended).

Work with the County and Caltrans to Implement Area Expressways

Implementing Action T-1.2.d of the *Merced Vision 2030 General Plan* states, **"Continue to work with the County and Caltrans to implement the Campus Parkway and the Merced-Atwater Expressway projects as high priorities to serve the northern growth area."**

Bellevue Road will become an important link with the expressways planned to the west and east. Planning for the Campus Parkway corridor began in the late 1990's when the concept of an "Eastern Beltway" to serve the City's northern growth area was conceived. With the location of the UC Merced campus in the Lake Yosemite area, the concept evolved into the Campus Parkway. The Atwater-Merced Expressway (AME) will provide a more cost-effective access to SR-99 and provide additional north-south roadway capacity within the Atwater and Merced, Castle Airport Development Center and the United States Penitentiary located in unincorporated portions of northern Merced County. Via its connection with Bellevue Road, the AME will connect east to the University of California at Merced.

BCP Policy M-1.6: Develop Bellevue Road to enhance the value of adjacent properties in an urban setting, while secondarily also serving as a route for regional traffic as a link in the City's Loop Road System.

While Bellevue Road is a link in the regional loop road, and will accommodate regional traffic, it is foremost an urban arterial with important land uses that will face it. Bellevue Road is also a gateway to and from UC Merced.

BCP Policy M-1.7: Explore the use of Traffic Circles and Roundabouts.

Fully examine the value of placing roundabouts along the BCP's various roadways, considering such factors as infrastructure and operating costs, and compatibility with transit services, and pedestrian and bicycle movements.

Transportation Policy T-1.3

Every intersecting street, as well as every curb cut, that allows vehicles to interrupt the traffic flow, either by slowing down to exit or by entering the road, affects both the speed and number of peak-hour vehicles the roadway can accommodate. For these reasons, **Transportation Policy T-1.3** of the *Merced Vision 2030 General Plan* spotlights the need to ***Design Major Roads to Maximize Efficiency and Accessibility.*** Implementing actions include:

BCP Policy M-1.8: Include side roads in the design of Bellevue Road.

Use of a side access road adjacent to Bellevue Road brings several benefits, including: allows buildings to face or address a street, creating a more visually pleasing setting and gateway environment, as compared to sound walls or loading docks; creates a space for other modes of mobility (transit, bike lanes, sidewalks) to access buildings; provides for on-street parking; could reduce the number of through travel lanes on adjacent arterial roadways; and maximizes access to uses without substantial slowing of through traffic on Bellevue Road. Additionally, side roads create a setting that provides more site design options for adjacent buildings, allows for very different land uses to locate on opposite sides of the road; and for building sites, overtime, to change. Note: When used in combination, the side roads and through travel lanes will total six lanes.

Adhere to Street Spacing Standards to Provide Smooth Traffic Flow

Implementing Action T-1.3.a of the *Merced Vision 2030 General Plan* states, "**Adhere, to the greatest possible extent, to the standards adopted for spacing streets that intersect arterials and higher order roadways as outlined in Table 4.2."** The locations at which streets intersect a major roadway, and the spacing or distance between such intersecting streets, are important factors affecting how well the major road fulfills its traffic carrying responsibility. The growth of traffic over time, along with accompanying disruptions such as increasing numbers of vehicle accidents, can significantly affect the efficiency of intersections.

BCP Policy M-1.9: Synchronize the traffic signals along Bellevue Road.

Heavy traffic loads, including through traffic are anticipated on Bellevue Road. To facilitate good vehicular flow and to avoid congestion at intersections, the traffic signals along Bellevue Road should be synchronized.

Transportation Policy T- 1.5

Traditional circulation patterns often tend to make it inconvenient for a driver to make a neighborhood or other local trip without getting onto a major street. It is important to have a circulation system that provides the flexibility to allow neighborhood and other trips on local roads, while encouraging non-local trips to use the major road system. For these reasons, **Transportation Policy T- 1.5** of the *Merced Vision 2030 General Plan* spotlights the need to ***Minimize Unnecessary Travel Demand on Major Streets and Promote Energy Conservation.*** Implementing actions include:

Provide Multiple Streets to Local Destinations

Implementing Action T-1.5.a of the *Merced Vision 2030 General Plan* states, **"Encourage design of local and collector streets within Villages/Neighborhoods to provide multiple, reasonably direct routes to local neighborhood destinations."** It is important to build flexibility into neighborhood circulation for reaching local destinations. At the same time, it is important to provide the opportunity for a local driver to reach the nearest major (arterial) road directly and quickly, if the destination is more distant.

BCP Policy M-1.10: Seek to implement an interconnected street grid.

An interconnected street pattern is foundational to the achievement of many goals of the BCP, including: 1) development of a successful transit system; 2) enabling functional sites for transit priority projects; 3) increased travel by pedestrians and bicyclists; 4) formation of an innovation hub and associated population; and 5) attracting research and development offices. Figure 11 of the BCP, an important illustrative diagram, should be utilized in the design of future development projects.

Promote Transportation System Management Strategies

Implementing Action T-1.8.d of the *Merced Vision 2030 General Plan* states, **"Promote Transportation System Management (TSM) strategies in areas where (Level of Service) LOS standards fall below the minimum."** Traffic signal timing or coordination, additional lanes at intersections, transit service enhancements, parking management and traffic management are all examples of transportation system management strategies which can be expected to be used in the future. Ridesharing programs, preferential treatment for High Occupancy Vehicles (HOV's), Park-and-Ride lots, one-way streets, the provision of bicycle facilities, and the promotion of variable work hours and telecommuting are also strategies which will be promoted by the City of Merced.

BCP Policy M-1.11_: Where possible, allow and encourage parking structures especially within or near *Transit Priority Projects* and in the *Mixed-use Transit-Oriented Development* and *Research and Development Park* place types.

In response to the market, the BCP allows for off-street structured parking facilities in the short-term and to transition to these facilities as population within the BCP increases. Alternatively, a study of their benefits, costs and funding mechanisms is suggested to inform the City concerning public support for parking structures to supplement market demand.

C.3.3 Bikes, Pedestrians and Public Transit

Transportation Policy T-2.1

The City is fortunate to have a central corridor, containing many of the major land use destinations within the urban area, aligned in general proximity to the length of M Street. These destinations would be convenient to a primary transit route on this roadway, and additional urban area destinations would be convenient to secondary or connecting routes on roads perpendicular to M Street. In addition, Bellevue Road/the Merced-Atwater Expressway and the Campus Parkway could provide connections to the M Street transitway, as well as a potential for future connections to regional facilities. For these reasons, **Transportation Policy T-2.1** of the *Merced Vision 2030 General Plan* spotlights the need to ***Provide for and Maintain a Major Transitway Along M Street and Possibly Along the Bellevue Road/Merced-Atwater Expressway and Campus Parkway corridors.*** Implementing actions include:

Avoid Negative Impacts to Function of Transit Corridors

Implementing Action T-2.1.c of the *Merced Vision 2030 General Plan* states, "**Continue to review land use decisions in the vicinity of M Street and Bellevue Road to avoid creating or increasing conflicts with the proposed future major commercial and office park sites at the major transfer point between designated transitway corridors."** The prospective intersection of Bellevue Road and the future M Street (extended) is also the intersection of two transitway corridors designated on the Circulation Plan. The M Street Transitway is projected to run the entire north-south length of the City, while the prospective Bellevue Road/Merced-Atwater Expressway Transitway would tie the M Street Transitway eastward towards the University of California (UC) campus (and possibly westward to the potential regional job center at Castle Airport).

Implementing Action T-2.1.f of the *Merced Vision 2030 General Plan* states, "**Work cooperatively with Merced County and other interested agencies to review and evaluate development proposals in the vicinity of Bellevue Road that might conflict with the prospective Bellevue Transitway."** Bellevue Road is designated as both an "Arterial" and a "Transitway" on this General Plan's Circulation Map. It will be important to obtain full regional cooperation to protect the future right-of-way (ROW) for this corridor, and to mitigate prospective impacts from any development projects upon these potential functions of this major roadway.

Plan for a Transit Corridor to UC Merced

Implementing Action T-2.1.d of the *Merced Vision 2030 General Plan* states, **"Cooperate with Merced County and other interested agencies outside the City to maintain a viable option for a Bellevue Road Transitway to provide regional public transit access to the University of California (UC) campus."** The Bellevue Road Transitway Corridor concept needs to be considered as part of any cooperative planning process for the future University of California (UC) campus and its environs. The Bellevue Corridor and other important corridors should be designed using the "Complete Streets" concept, which emphasizes use of all forms of transportation on streets, including automobiles, pedestrians, bicycles, and public transit.

BCP Policy M-2.1: Establish Mandeville Lane as the extension of the City's M Street Transit Corridor to UC Merced.

During the BCP planning process, there were extensive discussions about the placement of the transit corridor, either on Bellevue Road or Mandeville Lane. For many reasons described in the BCP, Mandeville Lane was selected as the appropriate roadway to develop the transit corridor. The Mandeville Lane

Transit Corridor provides for multiple options to connect to or extend it as needed.

Transportation Policy T-2.2

Continue to cooperate with MCAG and other interested administrations and agencies to develop ways and seek methods for making public transit more successful in the Merced area. For these reasons, **Transportation Policy T-2.2** of the *Merced Vision 2030 General Plan* spotlights the need to ***Support and Enhance the Use of Public Transit.*** Implementing actions include:

Promote Land Use Patterns and Site Designs that Support use of Public Transit

Implementing Action T-2.2a of the *Merced Vision 2030 General Plan* states, "**Promote land development patterns and site design criteria that support and enhance the use of public transit."** As Merced grows and as other factors change, it is more than likely that the use of public transit will increase. It is important for the City, with Merced County Transit, to carefully evaluate how it can most effectively plan for this expanded demand before it happens.

Provide Convenient Access to Transit

Implementing Action T-2.2c of the *Merced Vision 2030 General Plan* states, "**Whenever feasible, avoid creating barriers that prevent convenient access to current or prospective public transit routes."** It is important for residents to be able to reach the closest public transit route as directly and easily as possible. The more difficult it is for riders to reach a transit route, because of unnecessary or ill-conceived barriers, the more difficult it will be for public transit to serve the population effectively.

BCP Policy M-2.2: Seek to develop an interconnected street grid on both sides of Mandeville Lane.

The interconnected roadway grid is an essential foundational component of the urban fabric to support a successful transit system. A street network with a clear block structure and relatively closely spaced cross streets, whether curved, straight or otherwise, and having slower traffic than roads built to accommodate through-traffic, enables high-levels of access to transit and nearby uses and neighborhoods.

Transportation Policy T-2.3

Cost effective, efficient public transportation is important in any effort to provide a level of service necessary to attract increasing public ridership. For these reasons, **Transportation Policy T-2.3** of the *Merced Vision 2030 General Plan* spotlights the need to ***Support a Safe and Effective Public Transit System.*** Implementing actions include:

Take a Long Range View of How Land and Site Planning can possibly Affect Future Public Transit Options

Implementing Action T-2.3a of the *Merced Vision 2030 General Plan* states, "**Include public transportation access in the review process for major public and private development projects, as well as all significant land use design proposals considered by the City."** In view of the urban area's growth potential, including future additions to the University of California (UC) which will no doubt add to the demand for public transit, it is important for public transportation management to take a long range view of how land and site planning can possibly affect future public transit options. The City will work with Merced County Transit on this endeavor.

Avoid Designs that Require Transit Passengers to Cross Major Streets

Implementing Action T-2.3c of the *Merced Vision 2030 General Plan* states, "**Avoid whenever possible public transportation transfer points that force passengers to cross major vehicle routes on foot."**

Transportation Policy T-2.6

The City of Merced and Merced County have cooperated to develop an impressive regional bicycle system in the Merced/Lake Yosemite area. This has helped to place this area in a position to attract major cycling events. The bicycle system is also an important community and regional recreational asset. In addition, location of the University of California (UC) in proximity to Lake Yosemite will make an attractive and usable regional system much more useful and valuable. For these reasons, **Transportation Policy T-2.6** of the *Merced Vision 2030 General Plan* spotlights the need to ***Maintain and Expand the Community's Existing Bicycle Circulation System.*** Implementing actions include:

Coordinate Bike Planning and Construction with UCM and Merced County

Implementing Action T-2.6a of the *Merced Vision 2030 General Plan* states, "**Continue to coordinate implementation and planning of the Merced Bicycle Master Plan with the County of Merced and the University of California."** The City and County have a tradition of working together on off-road bicycle/pedestrian trails, as evidenced by the existing regional trail system tying together Merced and a significant portion of the greater urban area, including Lake Yosemite. A UC study suggested that bicycle usage is significant at all UC campuses for student commutes up to 5 miles, about the distance from Merced to the campus. Coordinating bicycle planning with the University is, therefore, critical, and should be incorporated into the development of the University's Long Range Development Plan, the University Community Plan, the Regional Bike Plan, and Merced Bicycle Plan.

BCP Policy M-2.3: Update the City's Bicycle Transportation Plan by incorporating the bikeway facilities planned in the BCP.

Figure 25 depicts the bike lanes, paths, and sharrows planned in the BCP. Placing these in the City's official bike plan will maximize the community's awareness of how bikeways will connect with UC Merced and to County areas outside the City's Sphere of Influence.

BCP Policy M-2.4: Identify a suitable location for a bicycle boulevard.

As the community plan develops and traffic patterns are formed, monitor circulation patterns and take steps to install a bicycle boulevard in the area bounded by Bellevue Road, Foothill Avenue, G Street and UC Merced.

C.4 Open Space, Recreation and Conservation

C.4.1 General Plan Goal and Policy Guidance

GP Goal Area OS-1: Open Space for the Preservation of Natural Resources

- Identify Sensitive Habitat
- Avoid Sensitive Habitats unless otherwise Mitigated
- Implement the United States Fish and Wildlife Service (USFWS) Memorandum of Understanding
- Create Open Space Corridors along Creeks and Other Appropriate Areas
- Support more Natural Flood Control Methods
- Preserve Scenic Corridors in the Bellevue Community Plan Area
- Apply Scenic Corridor Design Guidelines to Lake Road and Bellevue Road
- Plant Street Trees in New Developments

GP Goal Area OS-3: Open Space for Outdoor Recreation

- Acquire Park Sites in Advance of Development
- Implement the 2004 Parks and Open Space Master Plan
- Apply Park Location Criteria
- Develop Bikeways and Trails along Open Space Stream Corridors
- Site Bikeways along Canal Easements
- Connect Bikeways within Greenways Connecting Parks and Schools
- Link the City Bikeway System to the Lake Road bike path.
- Explore Provision of Unpaved Trails in Rural Residential Areas
- Design Bike Paths with Crime Prevention in Mind
- Plan for Community Parks
- Identify Additional Space and Facility Needs of Lake Yosemite Regional Park

GP Goal Area OS-4: Open Space for Public Health and Safety

- Preserve Open Space Areas Which Are Necessary to Maintaining Public Health and Safety

GP Goal Area OS-5: Conservation of Resources

- Implement the City's Water Regulations
- Implement the City's Water Efficient Landscape Ordinance

- Lead Water Conservation Efforts
- Encourage Public Water Conservation Efforts

C.4.2 Open Space for the Preservation of Natural Resources

Open Space, Conservation and Recreation Policy OS-1.1

The Merced SUDP/SOI is known to contain potential habitat for several sensitive wildlife species. Much of this potential habitat is located along riparian corridors of the community's creek system in vernal pools found in the northern part of the City's SUDP/SOI area, and on some agricultural lands throughout the planning area. As a matter of law, the City is required to review development proposals that threaten to impact known sensitive species. As a matter of policy, the City is committed to integrating potential wildlife habitat into the regional park and recreation system to enhance community awareness of the region's wildlife resources and to provide shelter for native plant and animal life of the area. For these reasons, the **Open Space, Conservation & Recreation Policy *OS-1.1*.**of the *Merced Vision 2030 General Plan* spotlights the need to "***Identify and Preserve Wildlife Habitats Which Support Rare, Endangered, or Threatened Species."***

Identify Sensitive Habitat

Implementing Action OS-1.1.a of the *Merced Vision 2030 General Plan* states, "**Identify, and recognize as significant wetlands and critical habitat areas which meet the appropriate legal definition under Federal and State law."** Development applications will be reviewed to determine if potential wetland habitats exist on-site, and wetland delineation may be required in accordance with current U.S. Army Corps of Engineers guidelines. "Wetlands" containing sensitive plant and/or animal species should be protected according to law. Vernal pool preserves may be incorporated into other open space preserves (i.e. parks and trails) that would not be directly impacted by urban development.

Avoid Sensitive Habitats Unless otherwise Mitigated

Implementing Action OS-1.1.b of the *Merced Vision 2030 General Plan* states, "**Urban development should occur away from identified sensitive species critical habitats areas unless specific provisions to ensure adequate protection and monitoring exist."** When, as a result of specific site studies, it is determined that "potential" habitats actually contain sensitive or endangered species, development rules, policies and standards should be applied to assure that further degradation of these species does not occur. These policies should emphasize "avoidance" as a desirable mitigation alternative.

BCP Policy OS-1.1: Utilize the BCP Open Space Map as both a guiding framework and an adjustable dynamic planning tool.

The *BCP Open Space Map*, which emphasizes avoidance of sensitive habitats, may be adjusted upon annexation if supported by biological studies, and comments by state and federal resource agencies, and if alternative mitigation supported by them, and is implemented by the property owner. The *BCP Open Space Map* includes potential long-term habitat and riparian areas, and shifts essential land uses such as research and development parks and land uses within one-quarter mile of Mandeville away from these areas. While this approach avoids the potential loss of these significant uses due to a state or federal requirement to scale-back development, the BCP allows development to occur within the open space corridor in the event that no mitigation or alternative mitigation is applied. Pending final determinations about the extent of actual habitat area needs, the map may be amended by either increasing, decreasing or relocating the amounts of open-space lands, and meeting minimum land amount requirements by the City.

Link Habitat Areas with Open Space Corridors

Implementing Action OS-1.1.d of the *Merced Vision 2030 General Plan* states, "**Design parks and open space corridors to provide linkages between potential habitat areas.**" It is important to develop linkages between open space areas to facilitate wildlife movement between designated habitat areas. This can be accomplished by connecting the east-west trending urban stream corridors with a north-south corridor provided by power lines, railroad rights-of-way and the regional irrigation canal network. Whenever possible, park open space areas should be connected to one or more of these designated open space corridors.

Implement the USFWS Memorandum of Understanding

Implementing Action OS-1.1.g of the *Merced Vision 2030 General Plan* states, "**Implement the Memorandum of Understanding (MOU) between the City of Merced and the U.S. Fish and Wildlife Service (USFWS), dated June 16, 2008, regarding the processing of development applications to ensure compliance with the Federal Endangered Species Act relating to Projects to be Served by the Wastewater Treatment Plant Water Quality Upgrade and Expansion Project.**" The MOU also outlines the procedures and comment period for notifying the U.S.F.W.S. of qualifying development projects and requires that applications for development projects shall

demonstrate compliance with the Endangered Species Act (ESA) as a pre-condition to having their application scheduled for public hearing.

BCP Policy OS-1.2: Encourage property owners to collaborate their planning and habitat protection and conservation responsibilities.

A collaborative approach to planning and habitat protection and conservation can allow for greater flexibility in locating development in the BCP area. Regardless of the method, steps to involve review of development proposals by resource agencies should occur early in process.

Open Space, Conservation and Recreation Policy OS-1.2

The urban creek system of Merced provides an important open space element within the City and provides important wildlife habitat. This creek system is also an integral part of the City's drainage system. The City is committed to a policy of preserving and protecting these important open space resources and assuring their continued viability as open space and drainage corridors. For these reasons, the **Open Space, Conservation & Recreation Policy *OS-1.2*.**of the *Merced Vision 203 General Plan* spotlights the need to "***Preserve and Enhance Creeks in Their Natural State Throughout the Planning Area*.**"

Create Open Space Corridors along Creeks and Other Appropriate Areas

Implementing Action OS-1.2.a of the *Merced Vision 2030 General Plan* states, "**Designate major creeks, streams, woodlands, and other appropriate areas in the City's SUDP/SOI as Open Space corridors."** Major creeks, riparian habitat, significant woodlands, and other sensitive environmental features should be conserved as open space amenities, when feasible. Fencing and piping of creeks should be avoided. Open Merced Irrigation District channels should not be considered as Open Space corridors, but where MID canals have been undergrounded, MID is open to working with the City on establishing open space corridors (with limited landscaping). Channelization of non-MID improvements should be naturalized. Whenever possible, in keeping with City standards and CEQA required mitigation measures, major creeks, riparian habitat, significant woodlands and other environmental features should be incorporated into the design of development.

BCP Policy OS-1.3: Encourage the formation of continuous open-space corridors.

Open-space corridors, whether developed, natural or a combination of both, should be formed with multiple use pathways within or immediately adjacent to these areas. The *BCP Open Space Map* includes two potential continuous open-space corridors that will offer habitat and bikeway connections to Lake Yosemite and UC Merced. The "*Tower Lateral Bikeway*" corridor located north and generally parallel to Bellevue Road connects to Lake Yosemite. The "*Cottonwood Creek Tributary Bikeway*" corridor located south of Bellevue Road connects to UC Merced. Work with the Merced Irrigation District to create approaches to permit the Tower Lateral to continue to flow along the surface and not be under-grounded.

Dedicate Creek Open Space Easements for Public Access

Implementing Action OS-1.2.b of the *Merced Vision 2030 General Plan* states, "**Continue to acquire a minimum 50-foot dedication from the centerline (or 25 feet from the crown, whichever is greater) of all creeks within the planning area in order to maintain these open space areas as natural riparian preserves and recreation areas."** Public access should be permitted, while important natural features and sensitive habitats are preserved.

BCP Policy OS-1.4: Plan for the construction and use of an off-street bike path within an open space corridor along the tributary to Cottonwood Creek (The "*Cottonwood Creek Tributary Bikeway*).

The "*Cottonwood Creek Tributary Bikeway* is located within the area bounded by Cardella Road, Lake Road, Bellevue Road and Gardner Road extended. Options for the actual location of the pathway, as well as the size and extent of the open space drainage corridor, will need to be explored as part of a master drainage study by the property owner prior to or as part of any future plans. The size and extent may also be affected by actions to conserve any proximate sensitive lands.

Support more Natural Flood Control Methods

Implementing Action OS-1.2.c of the *Merced Vision 2030 General Plan* states, "**Encourage alternatives to concrete channeling of existing creeks and streams as part of any flood control project and support more natural flood control methods."** Stream improvement plans must attempt to strike a compromise between drainage needs and open space needs on a case by case basis.

Open Space, Conservation and Recreation Policy OS-1.3

Historically, the City of Merced has developed along routes and corridors which have come to be part of the City's identity. The City has designated many of these scenic routes for special development review regulation in the past. This practice has served the City well and will be continued into the future. For these reasons, the **Open Space, Conservation & Recreation Policy *OS-1.3***. of the *Merced Vision 203 General Plan* spotlights the need to "***Promote the Protection and Enhancement of Designated Scenic Routes."***

Preserve Scenic Corridors in the Bellevue Community Plan Area

Implementing Action OS-1.3.b of the *Merced Vision 2030 General Plan* states, "**Preserve the designated Scenic Corridors."** The Scenic Corridors are as follows:

- Lake Road from Yosemite Avenue to Lake Yosemite.
- Bellevue Road from Lake Road to G Street.

Note: The General Plan lists many scenic corridors. Scenic corridors located within the Bellevue Community Plan area are listed above.

BCP Policy OS-1.5: Seek to maintain the rural character of Lake Road, and shift community and regional traffic to the Campus Parkway in the long-term.

The City's General Plan lists Lake Road as a scenic corridor. Its current design features include a two-lane road, natural drainages, a separate off-street multi-use pathway and street trees; these should be maintained and enhanced. Generally, improvements to reduce vehicular traffic congestion or to increase vehicular traffic capacity should not be made unless it is consistent with and enhances the current design features described above. Sub-standard traffic level of service may occur in order to satisfy this policy.

Apply Scenic Corridor Design Guidelines to Lake Road and Bellevue Road

Implementing Action OS-1.3.c of the *Merced Vision 2030 General Plan* states, "**Utilize established guidelines for the review of projects proposed within a designated Scenic Corridor."** The following guidelines apply to the review of applications for development in vicinity of a designated Scenic Corridor:

a) Utility lines should be placed underground whenever feasible.
b) Signing should be carefully controlled to insure that it does not detract from the scenic beauty of the corridor. Specific guidelines for signing along these corridors should be established.
c) Limit the intrusion of future land uses which may detract from the scenic quality of the corridor.
d) Unsightly mechanical and utility structures shall be screened from view by use of planting, grading, and fencing.
e) Heights and setbacks of buildings should be regulated to avoid obstructing important scenic views.
f) Every effort should be made to preserve and properly maintain existing stands of trees and other plant materials of outstanding value.
g) Structures on private and public properties visible from the corridor should be maintained in good condition (free of trash, weeds, etc.).
h) Architectural and landscape design should result in an attractive appearance and a harmonious relationship with the surrounding environment.

BCP Policy OS-1.6: Encourage designs within the Bellevue Community Plan area that enhances the view of UC Merced from Lake Road and the multi-purpose path

The natural elevation of the northern portion of Lake Road and accompanying bike path provide a unique opportunity to maintain and enhance the ability to view areas east of these facilities. The future design of roadways, landscaping, public access points and buildings within the BCP plan area should consider and include features that maintain and enhance the ability to view lands east of the BCP.

Open Space, Conservation and Recreation Policy OS-1.4

Early in the development of Merced, trees were planted to provide shelter from wind and summer heat. As a result, the City has a large number of mature trees along its streets, in public places and in private yards and has been designated a "Tree City USA" for over 30 years. The City's urban forest provides valuable wildlife habitat and creates an

attractive atmosphere for residents and visitors alike. Additionally, the City's trees have substantially reduced summer heat and glare around paved areas, thereby helping the City maintain a cooler summer average temperature and reduce energy usage. In continuing this tradition, the City of Merced has established policies and programs to protect, maintain and expand its urban forests. For these reasons, the **Open Space, Conservation & Recreation Policy *OS-1.4***.of the *Merced Vision 2030 General Plan* spotlights the need to "***Improve and Expand the City's Urban Forest."***

BCP Policy OS-1.7: Coordinate Urban Forestry Projects with other community goals.

It is possible to advance many community goals through urban forest projects. Whether the goal is to improve energy efficiency, to enhance aesthetics, to encourage walking or bike riding, to enhance property values or to prepare for increased temperatures, trees are the common solution. Urban forestry projects in the City currently include street and parking lot trees. Explore opportunities, supported by community, to expand and enhance the function of trees in the Bellevue Community Plan.

Plant Street Trees in New Developments

Implementing Action OS-1.4.b of the *Merced Vision 2030 General Plan* states, "**Continue to require new development to plant street trees approximately 40 feet apart, at a maximum, along City streets."** Tree planting policies have been established by the City for new development projects. These practices are to be continued.

C.4.3 Open Space for Outdoor Recreation

Open Space, Conservation and Recreation Policy OS-3.1

The City of Merced has benefited from the foresight of early leaders in the City's development with respect to parks and open space. The City's growth has historically incorporated its natural open space resources along Bear Creek and other lesser drainage courses into an overall open space network which has become a major source of civic pride. The City is committed to continuing this high standard of park and open space development in the expansion areas of the existing City. For these reasons, the **Urban Expansion Policy *OS-3.1***. of the *Merced Vision 2030 General Plan* spotlights the

need to "***Provide High-Quality Park and Open Space Facilities to Serve the Needs of a Growing Population.***"

Acquire Park Sites in Advance of Development

Implementing Action OS-3.1.a of the *Merced Vision 2030 General Plan* states, "**Continue efforts to acquire new park sites within future growth areas in advance of development to meet the recreation open space needs of an expanding population."** Overall, a total of five (5) acres of parkland should be provided per 1,000 residents in the City, of which 1.5 acres should be in community park and 3.5 acres should be in various forms of neighborhood parks, including village greens, school parks and other neighborhood parks. "Greenway" trails should provide bicycle and pedestrian access throughout the City and its growth areas.

Implement the 2004 Parks and Open Space Master Plan

Implementing Action OS-3.1.c of the *Merced Vision 2030 General Plan* states, "**Continue to implement the City's 2004 Parks and Open Space Master Plan and any subsequent updates."** The City's Parks and Open Space Master Plan (2004) provides specific system design and implementation standards for the development of the City's park system. This plan serves as a basis for requiring development recreation dedications as well as a guide for public facilities expenditures in the parks and recreation category. This plan requires periodic update and will need to be revised to reflect the City's proposed SUDP/SOI and the parks and open space opportunities and needs resulting from development.

Apply Park Location Criteria

Implementing Action OS-3.1.e of the *Merced Vision 2030 General Plan* states, "**Use the City's Park Dedication Ordinance to develop the City's park system.** A strong effort should be made to use the following criteria to locate parks:

a) No household should have to walk more than approximately one-half to three-quarters of a mile to a park site.
b) Parks should be located adjacent to schools as much as feasible.
c) Provide visual, pedestrian and vehicular access to all parks by requiring them to front on public streets on as many sides as possible and not be surrounded by privately owned property. Adequate parking facilities should be provided where needed.
d) Neighborhood park sites should front on at least one side on a collector street with the remaining sides on local streets. Community or Regional parks may front on arterials.

e) Park sites should be located so as to incorporate naturally-occurring open space features, such as significant stands of trees, riparian and wildlife habitat, scenic vistas, and creeks and drainage canals.
f) Park sites should be located adjacent to bikeway facilities.
g) Park sites should be located near higher-density residential areas as much as possible.
h) Parks should have access to nearby subdivision and greenways by means of cul-de-sacs, access easements, etc.

Open Space, Conservation and Recreation Policy OS-3.2

Merced's bikeway and urban trail system has become a model for the region and an important element of the character of Merced. The system's use of the natural open space resources of the community has benefited the public and helped to preserve important open space lands in addition to providing recreation and all transportation to residents. Bikeways and urban trails are an important element of the greenway system and provide linkages between other elements of the park system, public transportation, and residential and commercial areas throughout the City. The City is committed to building upon this system and expanding it into the growth areas within the resource constraints of the City. The 2004 Park and Open Space Master Plan provides a detailed needs assessment, along with policies and design standards for the acquisition, development and maintenance of new park and recreation facilities. The City's Bicycle Master Plan also addresses bikeway and trail systems. For these reasons, the **Open Space, Conservation & Recreation Policy *OS-3.2***. of the *Merced Vision 2030 General Plan* spotlights the need to "***Maintain and Expand the City's Bikeway and Trail System."***

Develop Bikeways and Trails along Open Space Stream Corridors

Implementing Action OS-3.2.a of the *Merced Vision 2030 General Plan* states, "**Utilize the urban stream system in the planning and design of bikeways and trails."** Development of bikeways and trails in these open space areas can enhance the open space value of the urban stream system provided that the trails do not unnecessarily interfere with other open space goals and policies.

BCP Policy OS-2.1: Plan for and construct the "*Cottonwood Creek Tributary Bikeway.*"

A tributary to Cottonwood Creek extends from UC Merced to Cottonwood Creek (located south of Cardella Road) through the BCP planning area. Prior to any subdivision along either side of this watercourse, a plan that describes the

location and design of how this Class I Bike Path will cross or extend under streets between UC Merced and Cottonwood Creek needs to be developed.

Site Bikeways along Canal Easements

Implementing Action OS-3.2.b of the *Merced Vision 2030 General Plan* states, "**Make use of creekside areas, utility line easements, abandoned railroad rights-of-way, and canal easements for bikeway purposes."** These areas are generally set aside as open space areas, and their use for bikeway and trail systems would enhance the public value of open space in addition to providing an important amenity to neighborhood residents.

BCP Policy OS-2.2: Plan for and construct the *"Tower Lateral Multipurpose Pathway."*

The Tower Lateral is an existing canal that extends from Lake Yosemite to G Street. Prior to any subdivision along either side of this canal, a plan that describes the location and design of how this Pathway will cross or extend under streets between Lake Yosemite and G Street needs to be developed.

Connect Bikeways within Greenways Connecting Parks and Schools

Implementing Action OS-3.2.c of the *Merced Vision 2030 General Plan* states, "**Provide links between parks, schools, and open space areas via the bikeway system."** The bikeway system can also be part of a greenway linking parks, schools, and other important open space areas.

Link the City Bikeway System to the Lake Road bike path.

Implementing Action OS-3.2.d of the *Merced Vision 2030 General Plan* states, "**Provide a link between the City and County bikeway systems by establishing a connector to the Lake Road Bikeway Corridor out to Lake Yosemite."** This area will become an important bikeway link to the new U.C. Campus area and its surrounding development. Plans may be integrated with future development of the Campus Parkway and linear open space plans along drainage courses and irrigation canals.

Explore Provision of Unpaved Trails in Rural Residential Areas

Implementing Action OS-3.2.g of the *Merced Vision 2030 General Plan* states, "**Explore the possibility of providing unpaved trails for equestrian and mountain bike use as part of the overall trail system."** These types of trail systems may be appropriate along the eastern fringe of the City where lower density Rural Residential development permits the keeping of horses and other livestock on large lots.

Design Bike Paths with Crime Prevention in Mind

Implementing Action OS-3.2.h of the *Merced Vision 2030 General Plan* states, "**Bike path designs should reflect security and other needs of the surrounding community."** If feasible, bikeways should be designed with multiple access points from surrounding neighborhoods so there is sufficient visibility from public roadways to facilitate surveillance by residents and police patrols. Where feasible, bike paths should be designed so that at least one side is open to a public street. Situations where bike paths are located along the back sides of homes with limited visibility should be avoided as much as possible. Open fencing along bike paths should be considered, especially adjacent to multi-family developments.

Open Space, Conservation and Recreation Policy OS-3.4

Throughout the City, a system of park and open space facilities should exist which include neighborhood parks, community parks, and greenways. This park system should be developed to serve all age, social, and economic groups in every geographic area of the City. Refer to the City's 2004 Park and Open Space Master Plan for design and development policies for new parks. For these reasons, the **Open Space, Conservation & Recreation Policy *OS-3.4***. of the *Merced Vision 2030 General Plan* spotlights the need to "***Develop a Diverse and Integrated System of Park Facilities throughout Merced."***

Plan for Community Parks

Implementing Action OS-3.4.a of the *Merced Vision 2030 General Plan* states, "**Community parks should be distributed throughout the City."** There should be at least 1.5 acres of community park provided per 1,000 residents. Community parks are usually 15 acres in size or greater, and must be located along a greenway and should be at the junction of two greenways when possible. Greenways, streets and landscaping should be used to minimize and buffer residences from the noise and nighttime lighting associated with ball fields.

BCP Policy OS-2.3: Seek to develop Community Park CP-43 in the BCP.

Consistent with the *2004 Park and Open Space Master Plan*, CP-43 should be located on arterial or collector streets, be highly visible from adjoining streets, and should be a minimum of 20-acres in size, with the optimum being about 30-acres. Provided active recreation facilities can be provided, the community park may be sited alongside any natural open-space lands in this area.

Identify Additional Space and Facility Needs of Lake Yosemite Regional Park

Implementing Action OS-3.4.d of the *Merced Vision 2030 General Plan* states, "**In cooperation with Merced County and the Merced Irrigation District, evaluate the Lake Yosemite regional park to identify how it might adequately meet the needs of the City of Merced and the new growth areas in the region including the U.C. Merced campus."** Lake Yosemite will likely become more heavily used by City residents as Merced grows and the U.C. Merced campus expands and grows. As a result, additional space and facilities may be required to accommodate future growth. Some of the area around the park contains potential wildlife habitat which limits development options for land owners. Consideration should be given to providing expanded public access and additional roadway entrances into the Lake Yosemite Regional Park.

BCP Policy OS-2.4: Consider the utility and designation of the land immediately south and west of Lake Yosemite (between the earthen dam and Golf Road) for public park use.

This consideration could occur as part of the next update to the City's Recreation and Parks Master Plan, or as a separate action. This site is currently designated as Park and Open Space/Recreation on the City's Land Use Map. The site is proximate to Lake Yosemite Regional Park and has limited development potential. Significant City park resources will be located south of Bellevue Road closer to the highest population density on the BCP, however. Justification for public use and availability of funding need to be further explored prior to any expansion of the City's planned recreation and parks open-space system.

C.4.4 Open Space for Public Health and Safety

Preserve Open Space Areas Which Are Necessary to Maintaining Public Health and Safety

Areas within the City which may represent a substantial risk to public health and safety have historically been designated for open space uses which may permit limited public or private use but generally reduce potential exposure of the public to potential health hazards. The City is committed to continuing to protect public health, where practical, by limiting the potential for public exposure through the sound application of open space practices and policies. For these reasons, the **Open Space, Conservation & Recreation Policy *OS-4.1***. of the *Merced Vision 2030 General Plan* spotlights the need to "***Preserve Open Space Areas Which Are Necessary to Maintaining Public Health and Safety.***"

BCP Policy OS-3.1: Maintain the current Open Space/Parks-Recreation Land Use Designation that is located south and west of Lake Yosemite (between the earthen dam and Golf Road). Consider expanding the area as appropriate.

Proposals from property owners of land located adjacent to the site to expand the Open Space/Parks-Recreation Land Use Designation onto their properties will be considered. There may be interest by these property owners to transfer any density rights to another property within the BCP.

C.4.5 Conservation of Resources

Promote Water Conservation throughout the Planning Area

Water is a finite resource in the Central San Joaquin Valley and is an essential ingredient to the region's continued agricultural production capacity as well as a vital element in the continued growth of the Merced Metropolitan Area. The City, in conjunction with the Merced Irrigation District, has studied the long-term needs for water and concluded that water conservation must be part of any successful long term water development strategy. The City is committed to continue its water conservation efforts and expand on those efforts where necessary. For these reasons, the **Open Space, Conservation & Recreation Policy *OS-5.1***. of the *Merced Vision 2030 General Plan* spotlights the need to "***Promote Water Conservation throughout the Planning Area.***" *To this end, the following implementation actions are listed in the General Plan:*

Implement City's Water Regulations

Implementing Action OS-5.1.a of the *Merced Vision 2030 General Plan* states, "**Continue implementation and enforcement of the City's Water Shortage Regulations (MMC 15.42.010-100).**" The City's emergency water shortage regulations have been in effect for many years to ensure an adequate water supply into the future

Implement City's Water Efficient Landscape Ordinance

Implementing Action OS-5.1.b of the *Merced Vision 2030 General Plan* states, "**Continue implementation of the Water Efficient Landscaping and Irrigation Ordinance (MMC 17.60.010-070) and subsequent updates.**" Promote the conservation of water and the preservation of water quality by requiring drought tolerant plant material in landscaping and the retention of existing natural vegetation on new development projects. The City will also consider alternatives to turf and other water-intensive landscaping, including artificial turf.

City Leadership in Water Conservation

Implementing Action OS-5.1.c of the *Merced Vision 2030 General Plan* states, "**Provide leadership in conserving urban water resources.**" City buildings and facilities should be equipped with water saving devices whenever practical. Municipal parks and playgrounds should employ water conservation techniques such as mulching, drip irrigation and other appropriate technologies.

BCP Policy OS-4.1: All new City facilities in the BCP plan area should be designed, equipped and operated to conserve water at a higher level than current practice.

Led by the City's Public Works Department, in coordination with the Development Services Department, Recreation and Parks Department, and others as appropriate, a comprehensive action plan to implement this policy should be developed. As an initial step, the targeted level of water conservation should be set by the City Council. The action plan would include all City facilities, including but not limited to all park types, public rights-of-way, and City owned or leased buildings. The City should involve local industry representatives, other public agencies, local schools, colleges and universities, and the general public in the development of the action plan. Existing guidelines and codes related to water use, for example, the list of appropriate street trees, should be considered

and updated to emphasize the need to conserve water. This work could be funded and supported through grants and local partnerships.

Encourage Public Water Conservation Efforts

Implementing Action OS-5.1.d of the *Merced Vision 2030 General Plan* states, "**Encourage public water conservation efforts."** Through established public information systems in the community, the City should promote water conservation by providing information on water savings from low-flow fixtures and the value of insulating hot water lines in water recirculating systems. Other conservation techniques can be addressed such as the use of non-potable water for landscape irrigation purposes (water re-use, MID water, etc.).

C.5 Land Use (Community Character)

C.5.1 General Plan Goal and Policy Guidance

GP Goal Area L-1: Residential & Neighborhood Design

- Promote Mixed Use Development
- Encourage High Density Housing
- Designate Areas for Multi-family Development

GP Goal Area L-2: Economic and Business Development

- Annex Job-Based Sites and Develop Plans to Provide Infrastructure
- Appropriately Space Neighborhood Commercial Sites
- Unique Circumstances for Locating Commercial at Arterial Street Corners
- Create Commercial Nodes / Update Code to Implement the City's Urban Design Principles
- Provide Circulation-Related Connections between Downtown and UC Merced
- Plan for Research and Development Parks
- Zone for Research and Development Parks

GP Goal Area L-3: Urban Growth and Design

- Encourage Pedestrian and Transit-Friendly Designs
- Plan for High and Medium-Density Housing near Transit Hubs and Commercial Centers
- Encourage a Mix of Land Uses
- Encourage Construction of Transit, Bicycling and Walking Features in Future Developments
- Permit Transit-Friendly Projects
- Require Community Plans Prior to Large Scale Development
- Utilize Community Plan Guiding Principles

C.5.2 Residential & Neighborhood Design

Land Use Policy L-1.1

The long term economic vitality of the City is enhanced by maintaining housing opportunities that accommodate a diversely skilled labor force. At the same time, residential development must have adequate and appropriate services which are accessible. The balance between job growth, housing opportunity and services not only supports stable economic growth in Merced, it also reduces vehicle trips for work commutes and service, and enhances the overall quality of life for Merced residents. For these reasons, the **Land Use Policy L-*1.1.***of the *Merced Vision 2030 General Plan* spotlights the need to "***Promote Balanced Development Which Provides Jobs, Services and Housing."***

Promote Mixed Use Development

Implementing Action L-1.1.a of the *Merced Vision 2030 General Plan* states, "**Promote mixed use development combining compatible employment, service and residential elements."** Mixed use development plans would typically be proposed in the new growth areas of Merced in accordance with the Urban Villages development standards. The City should continue reviewing its zoning and development codes in the established areas of the City to determine if policies and programs could be proposed which would facilitate the location of appropriate employment centers and services, including knowledge-based research and development and green industries.

BCP Policy CC-1.1: Follow Table 9 as a guide to prepare and assess future zoning regulations, master plans, or specific plans within the BCP.

Table 9 describes the range and intensities of land uses that may or may not occur within the character or bubble areas of the BCP, as presented in the BCP Land Use Map. The BCP provides for a wide range of land uses to occur within the character areas, and is based heavily on successful implementation of the form of the urban fabric discussed in the Urban Design Chapter. If this urban form is provided, the flexible nature of permissible land uses can be offered.

Land Use Policy L-1.2

With a diverse population of ages, races, incomes, and lifestyles, Merced's housing stock must reflect that diversity as well. For these reasons, the **Land Use Policy L-*1.2*** of the *Merced Vision 2030 General Plan* spotlights the need to "***Encourage a Diversity of Building Types, Ownership, Prices, Designs, and Site Plans for Residential Areas throughout The City."***

Encourage High Density Housing

Implementing Action L-1.2.a of the *Merced Vision 2030 General Plan* states, "**Encourage higher-density residential developments within walking distance (approx. 1/4 mile) of commercial centers."** The Urban Villages Concept calls for higher-density residential developments within walking distance of village commercial cores. A wide range of densities, including small-lot single-family, townhouses, and apartments, can be allowed in these "Village Core Residential" areas to achieve an overall average density of at least 10 units per acre. This residential development will help ensure greater support for transit and the economic viability of the commercial uses. These principles should be applied to most of the City's new growth areas and financial incentives explored for promoting their use.

BCP Policy CC-1.2: Encourage and support the development of *Transit Priority Projects* within the Mandeville Transit Corridor.

The Mandeville Transit Corridor, bounded by Bellevue Road, Foothill Road, G Street and Lake Road, should include high-density residential, research and development, and retail land uses within a transportation fabric that emphasizes a pedestrian-scale streetscape. This structure is intended to support a functional transit service, and to create opportunities for qualified transit priority projects.

BCP Policy CC-1.3: Seek to create compatible developments adjacent to existing Rural Residential neighborhoods.

When designing new neighborhoods adjacent to existing rural residential neighborhoods, the new development should incorporate compatibility strategies to minimize impacts on existing neighborhoods, such as: 1) when backing up to existing lots, use similar rear-setbacks, minimum lot area and height standards as the existing neighborhood; (2) when fronting new lots across

a street from existing lots, use similar front setbacks, lot width, height standards and road standards as the existing neighborhood.

Land Use Policy L-1.7

Multi-family developments are crucial to meeting the housing needs of Merced's growing population. They need to be located in appropriate areas where services are readily available to serve the needs of residents in an efficient manner. For these reasons, the **Land Use Policy L-*1.7*** of the *Merced Vision 2030 General Plan* spotlights the need to "***Encourage the Location of Multi-Family Developments on Sites With Good Access to Transportation, Shopping, Employment Centers, and Services."***

Designate Areas for Multi-family Development

Implementing Action L-1.7.a of the *Merced Vision 2030 General Plan* states, "**Designate areas adjoining arterial streets, major transportation routes and commercial areas for multi-family development."** Through the general plan process, sufficient areas for multi-family residential development should be designated. Locations appropriate for such development include areas adjoining arterial streets, major transportation routes, and commercial areas.

BCP Policy CC-1.4: Encourage multi-family development to occur within ¼ mile of the Mandeville Transit Corridor.

Multifamily housing is emphasized to occur in the Multi-Family Neighborhood Character Area. Moderate amounts may occur in the Mixed Use TOD Character Area, and the Flexible Mixed Use Neighborhood Character Area. Refer to Table 1 (BCP Character Area Descriptions and Regulatory Framework) for details of relative amounts anticipated to occur throughout the BCP planning area.

BCP Policy CC-1.5: Provide opportunities for the development of housing types to meet the special needs of students and others attracted to a University environment.

Housing types related to the needs of a university may include co-housing, higher density units, group quarters, etc. This may include areas set aside for the

development of experimental or housing prototypes provided they are compatible with adjacent uses.

C.5.3 Economic and Business Development

Land Use Policy L-2.2

It is important to designate areas for new industrial, research & development, and technology development ahead of other uses due to the area and access needs of industry as well as the need to avoid planning for incompatible uses adjacent to industrial areas which might interfere with continued industrial operations. For these reasons, the **Land Use Policy L-*2.2*** of the *Merced Vision 2030 General Plan* spotlights the need to "***Locate New or Expanded Industrial Parks, Research & Development, Technology, and Business in Appropriate Areas."***

BCP Policy CC-2.1: Emphasize the key role of the BCP as a tool to identify and set-aside lands for future opportunities for research and development sites near UC Merced.

The designation of sites for future research and development land uses need to be highlighted in the community and fixed at specific locations but flexible to grow and shift. Fixed R&D sites are essential to both anchor the BCP and to reserve areas as other land uses develop around the R&D sites.

Annex Job-Based Sites and Develop Plans to Provide Infrastructure

Implementing Action L-2.2.d of the *Merced Vision 2030 General Plan* states, "**Develop an action program which outlines priorities for annexing new industrial and commercial areas and includes plans for providing services and infrastructure to these future industrial/commercial areas."** With the advice of the Economic Development Advisory Committee and the Planning Commission, the City should establish an action program for annexing new industrial and commercial areas which would include plans for providing infrastructure. Since it takes time to bring industrial sites "on-line", it is imperative that this be done in a timely manner. Special attention should be given to areas within the northeastern portion of the City as job centers for businesses seeking a location near UC Merced.

Land Use Policy L-2.6

Residents of the City should have ready access to commercial services in close proximity to their homes for convenience and to eliminate the need for excessive automobile trips. Neighborhood centers with grocery, pharmacy, and other stores which serve the needs of surrounding residents should be distributed throughout the City to serve most residential areas. For these reasons, the **Land Use Policy L-*2.6*** of the *Merced Vision 2030 General Plan* spotlights the need to "***Provide Neighborhood Commercial Centers In Proportion to Residential Development in the City."***

Appropriately Space Neighborhood Commercial Sites

Implementing Action L-2.6.a of the *Merced Vision 2030 General Plan* states, "**Neighborhood commercial centers should be located approximately one mile apart along major arterial streets adjacent to residential areas throughout the City."** A one-mile radius is the standard service area for neighborhood commercial centers. The Land Use Diagram attempts to meet this standard, but additional sites may need to be designated in the future.

BCP Policy CC-2.2: Emphasize commercial development within the plan's Neighborhood Commercial centers.

The Plan's neighborhood commercial centers within the Mandeville Corridor contribute significant value to the livability of the future community. The variety of land-uses provided in close proximity to housing and employment supports the function of the transit corridor, the complete-street infrastructure improvements and the level of pedestrian and bicycle travel.

Land Use Policy L-2.7

Neighborhood, Regional, and Community Commercial areas throughout the City serve many adjacent neighborhoods. Their locations along major arterials also offer these commercial areas good visibility from passing motorists, which allows them to serve more than just their immediate neighbors. Sometimes, however, this leads to the reduced efficiency of these arterials if commercial driveways are allowed to proliferate in areas near major intersections. These problems can be minimized if commercial developments are located and designed carefully. For these reasons, the **Land Use**

Policy L-*2.7* of the *Merced Vision 2030 General Plan* spotlights the need to "***Locate and Design New Commercial Developments to Provide Good Access from Adjacent Neighborhoods and Reduce Congestion on Major Streets.***"

Circumstances for Locating Commercial at Arterial Street Corners

Implementing Action L-2.7.a of the *Merced Vision 2030 General Plan* states, "**New retail commercial designations shall be located along arterials at their intersections with collector streets (at 1/4 mile or 1/2 mile locations) in new growth areas. These commercial areas should not be located at the intersections of two arterials, except under very unique circumstances."** Commercial locations away from arterial street intersections, but still along arterials at collector street intersections, offer the combined benefits of high visibility and easier access for both drive-by traffic and for adjacent residential areas. Although the City believes that new commercial centers should not ideally be located at the corner of two arterials, the City will consider extremely limited exceptions for large-scale (minimum of 20 acres), high-quality projects which agree to abide by strict access and land use restrictions in proximity to the intersection (i.e. no freestanding pads with multiple curb cuts and no driveway cuts on arterials—only on internal streets), provide internal access and strong connectivity from the adjacent neighborhood, provide a mix of uses and residential densities throughout the project, provide good transit and pedestrian access, provide high-quality architecture, landscaping, site design, and signage, and provide significant public improvements.

BCP Policy CC-2.3: Consider the development of commercial center, appropriately-scaled to the adjacent neighborhood and consistent with the design parameters of General Plan Policy L-2.7.a, at the corner of G and Bellevue Road.

The design parameters are intended to minimize vehicular congestion, support a successful long-term commercial site, and to achieve general City goals and policies to provide clean air resources and mobility options.

Create Commercial Nodes

Implementing Action L-2.7.g of the *Merced Vision 2030 General Plan* states, "**Locate commercial nodes in new growth areas to avoid the aesthetic and circulation issues associated with "strip commercial" development through the implementation of the policies of the Urban Design Chapter (Chapter 6), particularly the Core Commercial principles."** In order to ensure high-quality commercial developments and to avoid typical "strip commercial" development, the policies and guidelines in the Urban Design

chapter should be implemented for new developments. The City's Zoning Ordinance should be updated and revised to implement these principles.

Land Use Policy L-2.8

In 2007, the Downtown Strategy Task Force (a 20-member group representing a broad range of community interests) was formed to develop a consensus on the proper direction for Downtown with the goal of maintaining Downtown as the City's center of cultural and civic activity, finance, and government. For these reasons, the **Land Use Policy L-*2.8*** of the *Merced Vision 2030 General Plan* spotlights the need to "***Encourage a Mixture of Uses and Activities That Will Maintain the Vitality of the Downtown Area."***

Provide Circulation-Related Connections between Downtown and UC Merced

Implementing Action L-2.8.c of the *Merced Vision 2030 General Plan* states, "**Ensure that the Downtown is connected to the rest of the City through improved bus service, better bicycle/ pedestrian connections, and enhanced connections between Downtown and Merced College and the UC campus."**

BCP Policy CC-2.4: Work to implement the mobility chapter of the plan, especially its bikeway and transit corridor features.

The BCP provides important bikeway and transit links between Downtown, Merced College and UC Merced. Mandeville Avenue is the extension of the main transit corridor to downtown. G Street and Gardner/Parsons are important roadway linkages. Bikeways will extend from Cottonwood Creek and the PG&E transmission line corridor. This integrated system will help to ensure Downtown is connected to the City as it expands toward UC Merced.

Land Use Policy L-2.9

With the location of the UC Merced Campus by Lake Yosemite, there is a need to designate future sites near the Campus for research and development parks. One of the economic benefits of having a major research university is the "spin-off" businesses that

develop from the research conducted by professors and students at the University. For these reasons, the **Land Use Policy L-*2.9*** of the *Merced Vision 2030 General Plan* spotlights the need to "***Identify Locations and Develop Standards for Campus-type Research and Development Parks."***

Plan for Research and Development Parks

Implementing Action L-2.9.a of the *Merced Vision 2030 General Plan* states, "**Plan for job centers in the northeastern portion of the City capitalizing on the proximity to a research university, UC Merced."** As part of the development of the northeastern area, research and development campuses should be encouraged. The size and precise location would need to be determined through a market/economic study. However, as with retail commercial uses, research and development parks should be focused at the ¼ or ½ mile transit nodes along the arterials to avoid traffic congestion at the intersection of two arterials. Business parks to accommodate research and development, technology, light industry, and business uses complimentary of the UC Merced Campus research could also be located on appropriately-designated properties along the Bellevue Corridor and other transportation corridors in the vicinity of the UC Merced Campus if the market exists for such uses.

BCP Policy CC-2.5: Focus a Research and Development center in the vicinity of Bellevue Road and Gardner Road, and allow it to expand with market demand.

Research and Development uses should be developed as an integrated campus connected by public spaces with an urban pedestrian-oriented scale. Surface parking lots may be permitted in the near-term, but the site should be designed to allow conversion to parking structures in the long-term. R&D uses should be supported by nearby compatible land uses to create a live, work, play environment, and may include varied uses including restaurants, retail, daycares and gyms in a dense urban setting that emphasizes mobility by transit, bikes and pedestrians.

Zone for Research and Development Parks

Implementing Action L-2.9.b of the *Merced Vision 2030 General Plan* states, "**Develop zoning and development standards for campus-type research and development parks."** The City's Zoning Ordinance does not currently contain zoning standards for

campus-type research and development parks. Such standards will need to define permitted and conditionally permitted uses, taking into account desired uses in such districts, which might include restaurants and hotels to serve the employees and clientele; setbacks, building heights, etc.

C.5.4 Urban Growth and Design

Land Use Policy L-3.1

Existing land use patterns in some of the City of Merced, like many other urban areas in the San Joaquin Valley, are not conducive to walking, cycling, and transit use. Many office developments have low employment densities and are often isolated from commercial services, forcing people to drive to eat lunch or to complete errands. The most common single family lot size of 6,000 to 10,000 square feet leads to population densities too low to support frequent and direct transit service. The predominant suburban development patterns force all local trips for shopping, recreation, school, as well as commute trips onto the arterial street system. This leads to ever wider, more congested arterial streets which in turn discourage people from walking or cycling to even nearby destinations. For these reasons, the **Land Use Policy L-*3.1*** of the *Merced Vision 2030 General Plan* spotlights the need to "***Create Land Use Patterns That Will Encourage People to Walk, Bicycle, or Use Public Transit for an Increased Number of Their Daily Trips."***

BCP Policy CC-3.1: Create a mixed-use, transit ready corridor along Mandeville Lane.

A carefully designed urban environment with appropriate paired land uses and circulation options can well serve a large population and associated commercial service market. The Mandeville Corridor is such a place. The synergy created by the paring of mixed-use with transit and other mobility options will help to attract research and development firms to the BCP.

Encourage Pedestrian and Transit-Friendly Designs

Implementing Action L-3.1.a of the *Merced Vision 2030 General Plan* states, "**Encourage pedestrian or transit-friendly designs at suitable locations."** Most of the new growth areas in North and South Merced would be appropriate for pedestrian- and transit-

friendly developments. Encourage the preparation of a specific or community plan for large scale new development which incorporates the goals and policies of the City's Urban Design Chapter.

Plan for High and Medium-Density Housing near Transit Hubs and Commercial Centers

Implementing Action L-3.1.c of the *Merced Vision 2030 General Plan* states, "**Plan areas for higher density development within 1/4 mile of locations identified as transit hubs and commercial centers."** Designate high-density land uses in areas planned for transit hubs and commercial centers.

Implementing Action L-3.1.d of the *Merced Vision 2030 General Plan* states, "**Encourage higher housing densities in areas served by the full range of urban services."** Encourage high and medium-density housing at sites within walking distance of transit and neighborhood commercial services. Consider higher housing densities for areas around existing and planned transit hubs.

Encourage a Mix of Land Uses

Implementing Action L-3.1.e of the *Merced Vision 2030 General Plan* states, "**Encourage mixed-use developments that provide commercial services such as day care centers, restaurants, banks, and stores near employment centers."** Establish mixed-use zone district standards. Tailor the allowed uses to those best suited for a pedestrian environment.

BCP Policy CC-3.2: Balance the ability to permit a range of land uses with the need to emphasize particular types in specific areas of the BCP.

While the BCP enables a variety of land uses to occur in the most of the Character Areas (see Table 1), this should not be interpreted as any use can go anywhere in any amount. The following tools have been crafted to explain the function of the character areas, and should be used to guide land use decisions in the BCP: 1) written narrative of Character Areas; 2) Table 9; and 3) the assumed land use amounts in the BCP traffic assessment.

BCP Policy CC-3.3: Seek to undertake a study or assessment of the likely future demographics to locate within the BCP in order to understand what they may

need or do concerning housing, services and jobs so that these demands may be met where possible within the BCP.

Given the proximity of the UC Merced campus to the BCP, future planning and permitting could benefit from understanding what people ages 17 to 28 may need and do. This population cohort may likely occupy a large portion of the housing in the area. Providing uses that meet these needs near housing may help to reduce traffic impacts that would otherwise exist should these uses be sited farther away from this demographic. Such study would also be valuable when making land use decisions that could negatively affect downtown Merced, and could also help to identify a unique district of uses that could exist next to UC Merced.

Land Use Policy L-3.3

Most developments are designed to provide the most direct and convenient access by car at the exclusion of other modes of transportation. It is possible to design sites in ways that encourage less polluting transportation modes and still support access by motor vehicle. For these reasons, the **Land Use Policy L-*3.3*** of the *Merced Vision 2030 General Plan* spotlights the need to "***Promote Site Designs That Encourage Walking, Cycling, and Transit Use."***

Encourage Construction of Transit, Bicycling and Walking Features in Future Developments

Implementing Action L-3.3.b of the *Merced Vision 2030 General Plan* states, **"Encourage all subdivision street and lot designs, commercial site plans, and multi-family site plans to improve access by transit, bicycle, and walking."** A few examples of design measures that could be recommended during design review include:

- Direct access to commercial centers from surrounding neighborhoods.
- Intra-development designs that incorporate integrated street patterns rather than designs which limit ingress and egress options to the development and restricts traffic to a limited number of arterials.
- Primary ground floor commercial building entrances should orient to plazas, parks, or pedestrian-oriented streets, not to interior blocks or parking lots as feasible.
- Promote the use of trees and plants in travelway landscaping and residences.

- Building facades should be varied and articulated to provide visual interest to pedestrians.
- Street trees should be placed in planter strips or tree wells. Tree species should be selected to create a unified image for the street and provide an effective canopy.
- Sidewalks should provide an unobstructed path. Larger sidewalk dimensions are desirable in commercial areas where pedestrian activity will be greatest.
- Encourage the use of front porches, bay window, and balconies which face onto the street to increase social interaction and provide heightened security for residential streets.
- Identify locations suitable for street furniture, and encourage its use.

BCP Policy CC-3.4: Implement the Pedestrian Plan as an essential component of the BCP's Circulation Plan.

The City's standard designs for roadways allow for pedestrian and bicycle use. Such use can be enhanced through a variety of other features, as noted in Implementing Action L-3.3.b, however. The BCP's use of an interconnected grid street, mainly occurring along the Mandeville Lane transit-corridor and the Mixed-Use TOD is one such feature. Figure 11 of the BCP depicts where other mobility-enhancing features are encouraged to occur.

Permit Transit-Friendly Projects

Implementing Action L-3.3.c of the *Merced Vision 2030 General Plan* states, **"Encourage all development projects proposed within 2,000 feet of an existing or planned light rail transit, commuter rail, express bus or transit corridor stop, to incorporate site design measures that improve accessibility to the transit system."** Analyze existing land use patterns and constraints around transit facilities to identify appropriate design measures

Land Use Policy L-3.6

The Community Plan process is envisioned as an important implementation tool in the Merced Vision 2030 General Plan for large-scale new developments. It is important to note, however, that it is intended to be a flexible tool that accomplishes a definite planning purpose yet does not unnecessarily frustrate the development process. For these reasons, the **Land Use Policy L-*3.6*** of the *Merced Vision 2030 General Plan* spotlights the need to "***Require Community Plans for Large New Development Areas within the City's SUDP/SOI Prior to Development."***

Require Community Plans Prior to Large Scale Development

Implementing Action L-3.6.a of the *Merced Vision 2030 General Plan* states, **"Require the development of Community Plans for large-scale new developments within the City's SUDP/SOI prior to development.'** As envisioned in this plan, a "Community Plan" may or may not conform with the requirements of Government Code Section 65450 for "Specific Plans." The Community Plans proposed are intended to recognize specific projects that have undergone significant developer-driven planning efforts but need to fit in with the Merced Vision 2030 goals and objectives. These projects will undergo additional detailed planning and environmental review when formally proposed to the City for development.

C.6 Urban Expansion

C.6.1 General Plan Goal and Policy Guidance

GP Goal Area UE-1: Urban Expansion/Preservation of Agriculturally Significant Areas

- In General, Develop Non-Prime Agricultural Lands before Prime Agricultural Lands
- Develop Key Employment and Circulation Corridors

GP Goal Area UE-2: Urban Expansion/A Compact Urban Form and Efficient Urban Expansion

- Limit Establishment and Growth of Rural Residential Centers
- Limit Expansion of City Utilities to only those areas within the Established Urban Boundary
- Promote High Density Residential Sites to Maintain a Compact Urban Form

GP Goal Area UE-3: Urban Expansion/Joint Planning Efforts

- Plan for Annexation of UC Merced
- Implement City's Position Regarding Development of the University Community Plan (UCP)

GP Goal Area UE-4: Urban Expansion/Timing, Density, and Location of New Growth

- New Development Should Occur next to Existing Urban Areas
- Encourage Phasing of New Development
- Plan for a Mixture of Land Uses
- Evaluate Annexation Proposals to Meet Specific Criteria

GP Goal Area UE-5: Urban Expansion/Rural Residential Centers

- Annex Suitable Rural Residential Areas
- Remove Unnecessary Obstacles to Annexation

C.6.2 Preservation of Agriculturally Significant Areas

Urban Expansion Policy UE-1.1

In General, Develop Non-Prime Agricultural Lands before Prime Agricultural Lands

Implementing Action 1.1.a of the *Merced Vision 2030 General Plan* states, ***"Direct development away from significant concentrations of "Prime" agricultural soils and give priority to the conversion of non-prime agricultural land if reasonable alternatives exist."*** Urban expansion should be directed away from significant concentrations of "prime" soils and where agricultural use can still be realistically and economically sustained. Development within the City's SUDP/SOI should be developed in such a manner as to minimize impacts on "prime" soils along the City's urban fringe. It is recognized that it is not possible to avoid all "prime" soils. The UC Merced Campus and University Community are located on prime farmland to avoid sensitive wetlands habitat. Some areas that contain prime soils are adjacent to important circulation and employment corridors and will need to be developed for urban use in order to achieve critical City economic development and circulation goals. Accommodating growth in a compact form within the City's growth area will decrease the pressure to develop outside urban areas where more prime soils and intensive agricultural operations now exist.

C.6.3 A Compact Urban Form & Efficient Urban Expansion

Urban Expansion Policy UE-1.2

Through the promotion of compact urban form, the City of Merced can achieve several important environmental and community planning goals. Through the concentration of urban development within the City's SUDP/SOI, impacts on surrounding agricultural resource lands can be reduced and important prime soils preserved. Additionally, through compact urban development, efficient public transit systems can operate to protect the region's air quality and pedestrian and bicycle use is encouraged. Compact urban development also reduces public infrastructure development and maintenance costs to the City and its residents. For this reason, M*erced Vision 2030 General Plan* Urban Expansion Policy 1.2, states, ***"Foster Compact and Efficient Development Patterns to Maintain a Compact Urban Form."***

Limit Establishment and Growth of Rural Residential Centers

Implementing Action UE-1.2.b of the *Merced Vision 2030 General Plan* states, ***"Work with Merced County to ensure that existing unincorporated Rural Residential Centers in the Merced area are not expanded and no new Rural Residential Centers are established."*** RRC's are not efficient uses of land and have not proven to be ideal buffers between urban and agricultural uses. Existing RRC's can remain but should not be enlarged and no new RRC's should be established, in accordance with County (and City) General Plan policy and provisions of the existing City/County Property Tax Sharing Agreement adopted in 1997 (Section 2.3.4).

BCP Policy UE-1.1: In cooperation with Merced County, seek to designate undeveloped parcels within the RRC as "Urban Reserve," a Merced County General Plan Land Use Designation.

Limit Expansion of City Utilities to only those areas within the Established Urban Boundary

Implementing Action UE-1.2.c of the *Merced Vision 2030 General Plan* states, ***"Continue to limit the expansion of City utilities to only those areas within the established urban boundary."*** Proposals for urban development within the City's SUDP/SOI shall be considered only after annexation has taken place. City utilities should not be extended outside of the City limits except in cases where public health and safety are threatened or a significant public interest (such as the UC campus) is served.

Promote High Density Residential Sites to Maintain a Compact Urban Form

Implementing Action UE-1.2.d of the *Merced Vision 2030 General Plan* states, ***"Promote higher residential densities within the Merced urban area."*** To maintain a compact form, the highest densities should, in general, be directed toward central areas of the City. Higher densities along the urban fringes may occur in Community Plan areas, if justified, however.

BCP Policy UE-1.2: Promote high residential densities along the Mandeville Transit Corridor within the Bellevue Community Plan.

The population near UC Merced will consist of a higher percentage of students, teachers, and employees than in other part of Merced. This population will need

opportunities for a range of housing opportunities ranging from apartments, condominiums, rooming homes, among others.

C.6.4 Joint Planning Efforts

Urban Expansion Policy UE-1.3

The University Community Plan area is planned as an urban area requiring urban services. Consideration has been given to making this area part of the incorporated City of Merced. Cooperative planning efforts will be necessary to ensure the effective development of this area for all interested and affected parties. For these reasons, the ***Land Use Policy L-1.2*** *of the Merced Vision 2030 General Plan spotlights the need to* ***"Continue Joint Planning Efforts on the UC Merced Campus and University Community Plans."***

Plan for Annexation of UC Merced

Implementing Action UE-1.4.a of the *Merced Vision 2030 General Plan* states, **"Incorporate the UC Merced campus area as part of the City's SUDP/Sphere of Influence and begin planning for the eventual annexation of the Campus."** The City should begin the process of planning for the eventual annexation of the Campus to the City, including evaluating various corridors for possible annexation in order to bridge the gap between the current City limits and the Campus boundary. Planning of the land uses along those corridors should also begin as well, including possible locations for research and development parks.

BCP Policy UE-2.1: Seek to form a collaborative approach to planning and implementing future growth near UC Merced.

A broad discussion of how best to utilize limited financial resources, to devise an intra-government infrastructure plan for roads and sewer, etc., and to decide governance issues should occur prior to development within or near the BCP. These efforts would be aimed to result in decisions that direct growth in a manner that serves the interest of the community as a whole. Such discussion an decisions would involve the University of California, the City of Merced and Merced County, as well as the Merced Irrigation District, local schools and the Merced County Association of Governments.

BCP Policy UE-2.2: In conjunction with the collaborative approach above, assess annexation options, and where appropriate, consistent with these efforts, encourage annexation of lands between the City and UC Merced.

Annexation of lands between UC Merced and the City need to be consistent with a community-based strategic approach to infrastructure improvement and property development in order to avoid: 1) an uncoordinated dispersal of infrastructure; 2) uncertainty in the marketplace; and 3) inefficient use of public infrastructure, services and funds.

Implement City's Position Regarding Development of the University Community Plan (UCP)

Implementing Action UE-1.4.b of the *Merced Vision 2030 General Plan* states, "**Working in cooperation with the County, implement the following (3-part) policy statement from City Council Resolution #2006-89 regarding the University Community Plan Area.**

1. Long-term Land Use and Governance

The University Community should be incorporated into the City of Merced, and should not be part of the unincorporated County, or a separate City.

- It is in the public interest that the University Community's development not result in the creation of a new city or other jurisdiction.
- Multiplication of jurisdictions can lead to conflicts, which should be avoided. A separate City on Merced's border is inherently undesirable.
- The University Community is expected to develop at an urban density. Merced County does not currently provide urban services. The City is already serving the University of California campus, and it is logical for the City to serve the adjacent area as well.
- No separate wastewater treatment plant should be allowed or constructed in the area, given the risks to the City's groundwater supply that could result, and competition for qualified licensed operators. This statement does not, however, preclude consideration of innovative methods of wastewater treatment for the area which are reasonably viable from an economic perspective.

The University Community should be developed with the use of annexation agreements and phased annexations, not through the creation of a County services district, either as an interim or permanent measure.

2. Phasing of Development and Services

The City of Merced is willing to provide interim sewer and water services from existing sewer and water lines along Bellevue Road that serve the University campus, provided that certain conditions are met:

- Interim services to the University Community require compliance with environmental law and permitting, including the California Environmental Quality Act (CEQA) and approval by the Local Agency Formation Commission (LAFCo).
- Prior to providing interim services, the City must receive an acceptable plan for long term service provision, enforceable commitment for annexation, and financial planning and commitments necessary to fund long term services.

The City should encourage annexation along the Bellevue Corridor to provide contiguity between the University Community and the City of Merced.

- The Bellevue corridor is expected to become a major regional transportation arterial. Bellevue Road also contains sewer and water lines which have been extended from the City to the University of California campus. The western half of the Corridor, from G Street to Golf Road, is already within Merced's SUDP, and annexation proposals are pending. East of Golf Road, the area along Bellevue Road is held in large tracts by a few land owners, and is mostly undeveloped. It is realistic to expect development proposals in this area in the near term.
- Phasing of the University Community's development should provide for logical extension of urban services.
- The Merced County "Rural Residential Center" bounded by Lake Road, Cardella Road, Yosemite Avenue, and Golf Road (extended) should be annexed into the City of Merced a**s** well. However, this area, which is already developed to a large extent, should be allowed to retain its rural character, with a special plan Designation to be worked out through the General Plan update process.

3. Planning Processes

The City accepts the University Community Plan adopted by Merced County on December 21, 2004 as a general conceptual framework for the planning of the University Community.

- That existing plan can be used as foundational work for further planning for the area, with the City as lead agency in the planning process.
- If a special planning process or framework is used for the development of the University Community, then the costs of that planning process shall be borne by applicants and developers, not by Merced residents.

The City should revise all of its various planning documents to accommodate the incorporation of the University Community into the City of Merced. These include not only the General Plan, but also plans for wastewater treatment, water, storm drainage, parks, fire protection, and other services

C.6.5 Timing, Density and Location of New Growth

Urban Expansion Policy UE-1.4

"Leap-frog development" tends to be cost-prohibitive in these times due to the high up-front costs of extending utility lines, streets, etc., across undeveloped properties to outlying areas. Such development should be discouraged in most cases because of the service inefficiencies it creates. Developments of large singular land uses bar opportunities for citizens to live, shop or work in a setting conducive to sustainable environmental, social and economic communities. Large distances between land uses create unwanted economic and social costs. For example, road infrastructure costs to connect jobs and housing are higher the further these uses are from each other. Likewise, cost to the citizen, in terms money spent and loss of time for other activities, is similarly affected. Greater impact to air quality results the further uses are to one another. For these reasons, the Urban Expansion Policy UE-1.3.of the *Merced Vision 2030 General Plan* spotlights the need to **"control the annexation, timing, density, and location of new land uses within the City's Urban Expansion Boundaries."**

New Development Should occur next to Existing Urban Areas

Implementing Action UE-1.3.a of the *Merced Vision 2030 General Plan* states, ***"The City should continue to require that all new urban development and annexations be contiguous to existing urban areas and have reasonable access to public services and facilities."*** Exceptions can be made for industrial areas which for business recruitment

reasons often need to provide infrastructure and services prior to development. Other exceptions may be made, with strong justification on a case-by-case basis, for other areas which may serve the public interest through early development.

BCP Policy UE-3.1: Development of Research and Development Parks that are not contiguous to existing urban areas may be considered.

Implementation Action UE-1.3a of the *Merced Vision 2030 General Plan* emphasizes that new urban development and annexations be contiguous to existing urban areas and have reasonable access to public services and facilities. Given that the City also seeks to provide significant job-based land uses, flexibility on the proximity of these land uses may be permitted. Important considerations include: reasonable provision and access to public services and facilities; extent of new jobs compared to community needs; impact costs of services and infrastructure and sources to compensate and mitigate.

BCP Policy UE-3.2: In the context of Implementing Action UE-1.3.a of the *Merced Vision 2030 General Plan*, growth adjacent to or in close proximity to UC Merced is considered one that is contiguous to an existing urban area.

The siting of UC Merced has created a second growth node within the City's Sphere of Influence. The City's model to form a compact urban form can be applied to a community with more than one center. Development adjacent to UC Merced, concurrent with growth adjacent to the City's traditional form, should be considered.

BCP Policy UE-3.3: Support efforts that permit campus serving housing, office and commercial development adjacent to UC Merced.

Under circumstances that are compatible with logical provision of City public infrastructure and services, development adjacent to UC Merced could be supported. The development should be related to proven market demands that originate predominately from UC Merced, and may include housing, office and commercial development.

Encourage Phasing of New Development

Implementing Action UE-1.3.c of the *Merced Vision 2030 General Plan* states, ***"The City shall encourage phasing of new development."*** Phasing of new development can

prevent the premature conversion of agricultural land, and permit the efficient and cost effective extension of services. When approving General Plan Amendments and Specific/Community Plans for large areas, the City should consider applying phasing to the development tied to the ability of the City to provide infrastructure and municipal services to new development and/or consider designating certain areas for development within 10-year time frames. These policies can be implemented through the Pre-Annexation Development Agreement process with property owners who seek these land use entitlements.

BCP Policy UE-3.4: Annexation proposals in the BCP shall be accompanied by a phasing plan.

In order to assure efficient and cost-effective extension of services, a phasing plan that matches infrastructure needs with anticipated development will need to be submitted with applications to annex lands within the Bellevue Community Plan area. The Phasing Plan will need to be consistent with City mechanisms and tools to finance and install public infrastructure and services.

Plan for a Mixture of Land Uses

Implementing Action UE-1.3.e of the *Merced Vision 2030 General Plan* states, ***"The planning for land uses in newly developing areas should reflect a mix of land uses which will support a neighborhood, including a variety of residential densities and price ranges, neighborhood and convenience shopping facilities, job creation, and public facilities such as schools and parks."*** The City will continue to promote the use of the mixed-use, pedestrian- and transit-friendly neighborhoods ("Urban Villages") in all new growth areas of the City as much as feasible.

Evaluate Annexation Proposals to Meet Specific Criteria

Implementing Action UE-1.3.g of the *Merced Vision 2030 General Plan* states, ***"Evaluate future annexation requests against the following conditions:***

a) Is the area contiguous to the current City limits and within the City's Specific Urban Development Plan (SUDP)/Sphere of Influence (SOI)? Do the annexed lands form a logical and efficient City limit and include older areas where appropriate to minimize the formation of unincorporated peninsulas?

b) Is the proposed development consistent with the land use classifications on the General Plan Land Use Diagram (Figure 3.1)?

c) Can the proposed development be served by the City water, sewer, storm drainage, fire and police protection, parks, and street systems to meet

acceptable standards and service levels without requiring improvements and additional costs to the City beyond which the developer will consent to provide or mitigate?

d) Will this annexation result in the premature conversion of prime agricultural land as defined on the Important Farmland Map of the State Mapping and Monitoring Program? If so, are there alternative locations where this development could take place without converting prime soils?

e) Will a non-agricultural use create conflict with adjacent or nearby agricultural uses? If so, how can these conflicts be mitigated?

f) Does annexation of the area help the City reach one of the following goals?

1) Does annexation of the area bring the City closer to annexation of the UC Merced campus and University Community?

2) Does the area contain significant amounts of job-generating land uses, such as industrial, commercial, office, and business/research & development parks?

3) Does the project provide key infrastructure facilities or other desirable amenities, such as the extension of major roads, utility trunk lines, parks and recreational facilities, etc.?"

C.6.6 Rural Residential Centers

Urban Expansion Policy UE-1.5

Unincorporated suburban development within the City's SUDP/SOI has resulted in problems of public protection (police and fire) service delivery to residents in addition to posing potential long term problems to residents with respect to maintenance of on-site water systems and wastewater disposal (septic) systems. Such problems could also threaten the City's future water quality. Also, residents of these areas, while directly impacted by the City's planning decision making process, have no direct voice in municipal affairs. In the long-term interest of both the City and the residents, these unincorporated suburban areas should be annexed to the City of Merced. For these reasons, the Urban Expansion Policy UE-1.5.of the *Merced Vision 2030 General Plan* **"promotes annexation of developed areas within the City's Specific Urban Development Plan (SUDP)/Sphere of Influence (SOI)."**

Annex Suitable Rural Residential Areas

Implementing Action UE-1.5.a of the *Merced Vision 2030 General Plan* states, ***"The City should continue to promote the annexation of unincorporated urban areas within the urban expansion boundaries, which cause a duplication of public services and hinder extension of City services to new development, if they are financially feasible."*** The

RRC area within the BCP has the potential to hinder extension of City services to future development lands located east of Lake Road. Continued growth in the County will create developments that do not include municipal utilities and bar future development of land that could help contribute to the cost of such infrastructure. Annexation of these lands prior to further development would resolve these issues.

Remove Unnecessary Obstacles to Annexation

The *Merced Vision 2030 General Plan* includes other implementing actions of Urban Expansion Policy UE-1.5 to examine methods to ease annexation of the RRC in and adjacent to the BCP plan area, and include:

Implementing Action UE-1.5.b of the *Merced Vision 2030 General Plan* states, ***"Review relevant City improvement and development policies to remove unnecessary obstacles to annexation."***

Implementing Action UE-1.5.c of the *Merced Vision 2030 General Plan* states, ***"Provide assistance to residents of unincorporated areas to address public health and safety concerns of on-site water and sewer systems."***

Implementing Action UE-1.5.d of the *Merced Vision 2030 General Plan* states, ***"Establish annexation policies and outreach program regarding the annexation of the existing Rural Residential Centers (existing development on one-acre lots)."***

Implementing Action UE-1.5.e of the *Merced Vision 2030 General Plan* states, ***"Provide information to interested unincorporated area residents on the benefits of annexation."***

C.7 Public Facilities and Services

C.7.1 General Plan Goal and Policy Guidance

GP Goal Area P-1: Public Facilities and Services

- Plan for Utility Capacity and Extensions
- Develop Phasing Plans for Public Facilities and Services
- Develop "Plans for Service"

GP Goal Area P-2: Police and Fire Protection

- Determine Appropriate Sites for Future Fire Stations

GP Goal Area P-3: Water

- Explore Range of Uses for Untreated Water
- Limit Expansion of City Utilities outside its Incorporated Limits
- Preserve and Enhance Surface Water System
- Develop Groundwater Recharge and Storage Facilities

GP Goal Area P-4: Wastewater

- Coordinate Wastewater Planning Activities with the County
- Design Growth Areas to Use Treated Wastewater

GP Goal Area P-5: Storm-Drainage and Flood Control

- Provide "Open Space" Type Storm-Drainage Infrastructure

GP Goal Area P-6: Solid Waste

- Minimize Solid Waste

GP Goal Area P-7: Schools

- Plan for School Sites near Parks, Bikeways and Adjacent to Residential Uses.
- Coordinate Infrastructure Needs with UC Merced

GP Goal Area P-8: Government, Health, Library, Cultural Facilities

- Plan for Government, Health, Library and Cultural Facilities.

GP Goal Area P-9: Telecommunications

- Plan for Telecommunications Infrastructure

C.7.2 Public Facilities and Services

Public Services and Facilities Policy P-1.1

One of the key elements to promoting a healthy local economy in Merced is the quality of life enjoyed by the City's residents. The quality and availability of urban services and infrastructure is found to be an important measure of urban quality of life. It is understood that facilities and infrastructure not provided by the City is the planning and funding responsibility of other governmental, quasi-public, or private entities. For these reasons, the **Public Services and Facilities Policy P-1.1** of the *Merced Vision 2030 General Plan* spotlights the need to "**Provide Adequate Public Infrastructure and Municipal Services to Meet the Needs of Future Development."**

Plan for Utility Capacity and Extensions

Implementing Action P-1.1.a of the *Merced Vision 2030 General Plan* states, "**Through development review and long range planning efforts, ensure that utilities are adequately sized to accommodate the proposed development and, if applicable, allow for extensions for future developments, consistent with master plans."** Improvement standards applied through the long range planning and/or development review processes should be based upon existing and potential utility needs to a site as well as existing and potential utility needs in surrounding areas.

BCP Policy P-1.1: Ensure that utilities are adequately sized to serve proposed development within the BCP and other lands within the City's Sphere of Influence.

The BCP does not include improvement standards for utilities. It along with other long-range planning efforts within the City's Sphere of Influence identify desired arrangement and density of land uses, which can be used to determine improvement needs. Infrastructure Master Plans for sewer, water, storm-drainage are needed to describe the system needed to serve the land use plans. Along with such determination, it is important to identify feasible funding for such improvements, and to make necessary adjustments to the long-range planning documents to align with fiscal constraints or opportunities. The study should include the urban expansion area in northeast Merced, and be developed collaboratively with UCM and Merced County.

Develop a Phasing Plan for Public Facilities and Services

Implementing Action P-1.1.c of the *Merced Vision 2030 General Plan* states, "**Include in Community Plans, Specific Plans and master plans, a phasing plan for providing access, sewer, water, drainage, flood control, schools, parks and other appropriate governmental facilities and services."** A phasing plan helps ensure that adequate service facilities can be accommodated in the planning area and that new facilities and services will be provided in a manner that keeps pace with population growth.

Public Services and Facilities Policy P-1.3

New growth and development within the City is accommodated to assure that adequate space is provided to meet future population growth needs. The City will endeavor to provide for cost-effective new infrastructure and public service expansion to serve that growth. It is the City's policy, however, that new development should not create a financial burden for existing City residents and that all new development should be more self-supporting with respect to infrastructure availability, maintenance, and future municipal service provision. For these reasons, the **Public Services and Facilities Policy P-1.3** of the *Merced Vision 2030 General Plan* spotlights the need to "**Require New Development to Provide or Pay for its Fair Share of Municipal Public Facility and Infrastructure Improvements."**

Develop "Plans for Service"

Implementing Action P-1.3.e of the *Merced Vision 2030 General Plan* states, "**Master Plans, Community Plans, General Plan amendments, pre-zoning, and annexation proposals, through the Development Agreement process, shall ensure that infrastructure development and public facilities and municipal services are consistent with overall local public agency plans, and that the local public agencies can reasonably provide and/or extend services within the proposed development time frame of implementation."** Master Plans, Community Plans, General Plan amendments, pre-zoning, and annexation proposals prepared for areas subject to annexation to the City shall include an evaluation (prepared by the applicants with input from the City, School Districts, and other service providers) of all infrastructure, public facilities, and services under the jurisdiction of all local public agencies. These Plans for Service should include an evaluation of existing infrastructure and services, future public facilities and services required to serve the development, and the timing and funding of such public facilities and municipal services.

BCP Policy P-1.2: Development within the BCP should be based on "Plans for Service", which will be prepared at the time of annexation of the project site.

As part of the decision-making process, "Plans for Service" will be prepared and considered by the City and Merced County LAFCO to assure that infrastructure development and public facilities and municipal services are consistent with overall local public agency plans. These public agency plans include Master Infrastructure Plans that need to be prepared using the BCP and other long-range land use plans as a basis for assessment and provision of service.

C.7.3 Police and Fire Protection

Public Services and Facilities Policy P-2.1

Public protection services and facilities are to be maintained in the City of Merced at a level that promotes the health and welfare of the City's residents. The City is committed to assuring that facilities, equipment and staffing levels of its fire and police service units meet the highest standard. For these reasons, the **Public Services and Facilities Policy P-2.1** of the *Merced Vision 2030 General Plan* spotlights the need to "**Maintain and Enhance Public Protection Facilities, Equipment, and Personnel to the Maximum Extent Feasible Within the Resource Constraints of the City to Serve the City's Needs."**

BCP Policy P-2.1: Ensure adequate service levels for police and fire protection in order to service substantial growth in the BCP area.

Consistent with the City's General Plan, the BCP does not include a proposed police of fire station site; but at the same time, the BCP does not preclude the placement of a station in the planning area.

C.7.4 Water

Public Services and Facilities Policy P-3.1

According to the Merced Water Supply Plan and the Urban Water Management Plan, the City of Merced currently has adequate water resources and will continue to do so if they are properly managed to meet its future growth needs. The City must continue to work closely with the Merced Irrigation District (MID) in order to ensure that these resources remain stable. The City of Merced is committed to a program of cooperating in the long-term management of the area's water resources and utilizing policies and programs which conserve and manage water use in such a manner as to maintain the potable quality of the City's system and reduce treatment costs on applications which do not require the use of treated water. For these reasons, the **Public Services and Facilities Policy P-3.1** of the *Merced Vision 2030 General Plan* spotlights the need to "**Ensure That Adequate Water Supply can be provided Within the City's Service Area, Concurrent with Service Expansion and Population Growth."**

Explore Range of Uses for Untreated Water

Implementing Action P-3.1.a of the *Merced Vision 2030 General Plan* states, "**Pursue innovative programs to reduce the demand for potable ("drinkable") water."** The City should explore programs for utilizing untreated water since many urban water uses do not require treated, "drinkable" water. Non-treated water can be used for landscape irrigation, industrial processing, and other uses. Possible sources of non-treated water might include: (1) MID surface water supplies; (2) storm water; or (3) reclaimed water.

BCP Policy P-3.1: Examine the value and feasibility of using a variety of multi-purpose storm-water capture features compared with the traditional curb-and-gutter system.

In lieu of current practice of capturing and transporting water immediately into basins, a multi-use distributed system of features can offer multiple benefits to the City and residents. Along with encouraging the capture and use of rainwater on private properties, the siting of street planters, curb extensions, and green strips in the medians can provide cost-effective peak flood reduction, filter pollutants, be a source of groundwater recharge, improve pedestrian safety, beautify neighborhoods, help alleviate the urban "heat-island" effect, and conserve the City's potable water source. This alternate system could blend well with the rural character of the plan's residential neighborhoods.

Limit Expansion of City Utilities outside its Incorporated Limits

Implementing Action P-3.1.g of the *Merced Vision 2030 General Plan* states, "**The City shall not extend water service outside its incorporated limits, except under limited circumstances."** City policy requires that an area be annexed to the City before City water can be provided. Exceptions to this policy include emergencies where public health and safety are threatened or a significant public interest is served, such as the UC campus or as otherwise determined by the City Council. (Refer to the Urban Expansion Chapter for other policies which relate to the UC.)

Public Services and Facilities Policy P-3.2

Studies have concluded that the long-term potable water needs of the City can best be served through the use of the area's groundwater resources. To the same degree, there is a need to improve and enhance the ability to utilize surface water resources and to develop groundwater recharge facilities for the long-term stabilization of the regional aquifer. The City has historically cooperated with the Merced Irrigation District to preserve and enhance the regional water resources and is committed to continuing this cooperation. For these reasons, the **Public Services and Facilities Policy P-3.2** of the *Merced Vision 2030 General Plan* spotlights the need to **Stabilize the Region's Aquifer, in Cooperation with the County and the Merced Irrigation District Work"**

Preserve and Enhance Surface Water System

Implementing Action P-3.2.b of the *Merced Vision 2030 General Plan* states, "**Work cooperatively with MID to preserve and enhance its surface water delivery system."** It is important that the viability of the MID irrigation system be preserved and enhanced to assure long term, cost-effective water supplies for area agricultural interests. MID's water rights must also be protected. The long term strategy of promoting surface water use by area farms will reduce agricultural demands on the area's groundwater resources and promote water conservation throughout the region.

Explore Range of Uses for Untreated Water

Implementing Action P-3.2.c of the *Merced Vision 2030 General Plan* states, "**Explore the use of MID water resources for applications that do not require treated water to reduce demand on the regional groundwater supplies and reduce costs of water treatment."** By using surface water for uses such as landscape maintenance that do not require treated water, the City can reduce its demand on regional groundwater supplies and perhaps reduce the costs of water treatment.

BCP Policy P-3.2: Initiate a program to irrigate public parks with MID surface water supplies.

Large portions of the BCP park and open space network is planned to be located adjacent to MID surface waters, that can be used for landscape irrigation, thereby reserving clean groundwater for potable uses.

Develop Groundwater Recharge and Storage Facilities

Implementing Action P-3.2.d of the *Merced Vision 2030 General Plan* states, "**Cooperate with MID and the County in the development of groundwater recharge facilities."** Groundwater recharge has been identified as key to maintaining an adequate water supply into the future. Groundwater recharge can operate in conjunction with park and open space facilities incorporating the development of recreational lakes and use of storm water retention basins for summer recharge programs. Recharge facilities should be designed as multi-use facilities within the Merced urban area where feasible.

BCP Policy P-3.3: Coordinate with the Merced Irrigation District (MID) to design and operate laterals as sites for recharge, storm-water management and recreational open space corridors while protecting its primary function as conveyance of water to agricultural pursuits.

Several MID laterals trace through the BCP conveying Merced River surface water in the spring and summer (May to October) to agricultural fields both inside and out of the BCP planning area. To the east of the BCP planning area is UCM including its canal-based open space features, the Lake Road bike-path, future bikeways within and around UC Merced, and Yosemite Lake Regional Park. The planning area is void of any notable creek that can connect Merced to these features. The MID laterals in the BCP provide a unique opportunity to link these features and address a range of community needs including groundwater recharge, storm-water management and recreational open space corridors. A collaborative effort between the City, Merced County and MID should be initiated to create a long-tem multiple-use strategy for the future use of the MID laterals.

C.7.5 Wastewater

Public Services and Facilities Policy P-4.1

Future growth and development will depend on the availability of wastewater system capacity. The City is committed to keeping the City's system current with respect to present and projected future needs of the growing urban area. For these reasons, the **Public Services and Facilities Policy P-4.1** of the *Merced Vision 2030 General Plan* spotlights the need to "**Provide Adequate Wastewater Collection, Treatment and Disposal Capacity for Existing and Projected Future Needs."**

Coordinate Wastewater Planning Activities with the County

Implementing Action P-4.1.c of the *Merced Vision 2030 General Plan* states, "**Coordinate wastewater planning activities with the County."** The City and County should develop a joint strategy for accommodation of development in the Rural Residential areas to minimize ground water contamination from septic tank systems. Additionally, development proposed within the City's SUDP/SOI and not yet annexed to the City or proposed within an area that will likely be annexed in the future should be reviewed by both the City and County to assure its future compatibility with the City's wastewater collection, treatment and disposal plans. Plans for servicing the UC Merced campus and University Community should also be coordinated.

BCP Policy P-4.1: Coordinate wastewater planning activities with UCM and Merced County.

Include the Bellevue Community Plan, the University Community Plan and UCM's Long-Range Development Plan, as well as other development plans within the City's Sphere of Influence in any update to the City's wastewater planning activities. Such studies should include an assessment of potential strategies to minimize groundwater contamination from septic tank systems in Rural Residential areas.

Public Services and Facilities Policy P-4.2

In future years, the urban expansion area of Merced may require the development of expanded wastewater treatment systems as part of a long-term comprehensive wastewater treatment plan. Their design should incorporate beneficial use of treated wastewater. It is necessary that other development components also be planned to

incorporate the potential to utilize reclaimed water as a primary or secondary disposal process. For these reasons, the **Public Services and Facilities Policy P-4.2** of the *Merced Vision 2030 General Plan* spotlights the need to "**Consider the Use of Reclaimed Water to Reduce Non-Potable Water Demands Whenever Practical."**

Design Growth Areas to Use Treated Wastewater

Implementing Action P-4.2.a of the *Merced Vision 2030 General Plan* states, "**Consider the development of reclaimed water systems, including pipelines, pump stations and storage ponds."** Design and development would be dependent upon proximity of the system to potential users.

BCP Policy P-4.2: Encourage innovative distributed reclaimed water improvements for buildings.

Private on-site systems should be encouraged provided that water quality issues can be adequately addressed. These systems may involve the collection of rainwater, the use of gray-water, or other similar reclaimed technologies. For example, buildings can incorporate wastewater reuse systems, encouraging on-site water recycling for cooling systems and landscaping needs.

C.7.6 Storm Drainage and Flood Control

Public Services and Facilities Policy P-5.2

In order to provide for the most cost effective infrastructure development and maintenance strategy, the City is committed to a program of developing facilities that can accommodate multiple uses. To this end, the City will identify multiple use sites throughout the Merced SUDP/SOI. For these reasons, the **Public Services and Facilities Policy P-5.2** of the *Merced Vision 2030 General Plan* spotlights the need to "**Integrate Drainage Facilities with Bike Paths, Sidewalks, Recreation Facilities, Agricultural Activities, Groundwater Recharge, and Landscaping."**

BCP Policy P-5.1: Craft a Storm-water Master Plan that emphasizes multiple use objectives of the community.

Assure that storm-water flow from and through the BCP is addressed on a regional scale, taking into consideration the important opportunities and constraints of the Lake Yosemite Reservoir. The plan will need to identify

conveyance channels and stormwater basins, whether inside or outside the BCP, in anticipation of future flood waters and need to divert water from urbanized areas, including UC Merced. As part of this assessment, the plan should include methods to create a multi-use distributed system of features (in lieu of the simple curb and gutter system). Such features can include the capture and use of rainwater on private properties, the siting of street planters, curb extensions, and green strips in street medians. These features can provide cost-effective peak-flood reduction, filter pollutants, be a source of groundwater recharge, improve pedestrian safety, beautify neighborhoods, help alleviate the urban "heat-island" effect, and conserve the City's potable water source.

Provide "Open Space" Type Storm-Drainage Infrastructure

Implementing Action P-5.2.a of the *Merced Vision 2030 General Plan* states, **Provide drainage channels in transportation or canal easement areas to the extent feasible.** Reflect the planned regional street and open-space network to the degree possible when locating new future drainage facilities.

BCP Policy P-5.2: Examine the value and feasibility of using a variety of multi-purpose storm-water capture features compared with the traditional curb-and-gutter system.

In lieu of current practice of capturing and transporting water immediately into basins, a multi-use distributed system of features can offer multiple benefits to the City and residents. Along with encouraging the capture and use of rainwater on private properties, the siting of street planters, curb extensions, and green strips in the medians can provide cost-effective peak flood reduction, filter pollutants, be a source of groundwater recharge, improve pedestrian safety, beautify neighborhoods, help alleviate the urban "heat-island" effect, and conserve the City's potable water source. This alternate system could blend well with the rural character of the plan's residential neighborhoods.

C.7.7 Solid Waste

Public Services and Facilities Policy P-6.1

State law mandates that the waste stream be reduced significantly and that local governments implement programs and activities to accomplish this objective. The City of Merced deems that it is in the City's long term interest to support efforts to reduce the amount of solid waste deposited in the Merced County Regional Waste Management Authority's landfill sites and support private and public recycling efforts. For these reasons, the **Public Services and Facilities Policy P-6.1** of the *Merced Vision 2030 General Plan* spotlights the need to "***Establish Programs to Recover Recyclable Materials and Energy from Solid Wastes Generated within the City.***"

Minimize Solid Waste

Implementing Action P-6.1.a of the *Merced Vision 2030 General Plan* states, **Continue to implement source reduction and recycling programs to minimize waste at the point of manufacture or use.** Such programs should include the following: 1) Continuing citywide recycling efforts for homes and businesses; 2) Supporting public and private recycling efforts to divert wood, leaves and yard waste from being deposited in the landfill site; and 3) Assisting the private sector wherever possible in developing methods for the reuse of inert materials (concrete, asphalt and other building materials waste) which currently use valuable landfill space and increasing resource and material recovery from solid wastes.

BCP Policy P-6.1: Collaborate with UC Merced to implement new recycling, composting, and source reduction programs.

In 2007, the University of California adopted a *Policy on Sustainable Practices*, which sets waste diversion goals of 75 percent by June 2012 and zero waste by 2020. This presents an opportunity for the City of Merced to collaborate with UC Merced to identify and implement new programs to reduce the waste-stream in the City.

C.7.8 Schools

Public Services and Facilities Policy P-7.1

While the primary responsibility of providing education services in the City of Merced belongs to the various school districts which operate in the community, the City can provide an important element of support to education service providers. In a time of limited resources, cooperative arrangements between all levels of local government are essential to maintaining and enhancing service levels. The City of Merced is committed to working cooperatively with local educational service providers, both public and private, in the improvement of the educational resources available to City residents. For these reasons, the **Public Services and Facilities Policy P- P-7.1** of the *Merced Vision 2030 General Plan* spotlights the need to "**Cooperate With Merced Area School Districts to Provide Pre-Kindergarten, Elementary, Intermediate, And High School Sites That Are Centrally Located to the Populations They Serve and Adequate to Serve Community Growth."**

Plan for School Sites near Parks, Bikeways and Adjacent to Residential Uses.

Implementing Action P-7.1.d.of the *Merced Vision 2030 General Plan* states, "**In general, schools should be located within residential neighborhoods near parks, bikeways, and other open space amenities. Schools should not be located within industrial areas. In urban village areas, schools should be located adjacent to Village Core Residential (higher density) areas."** Schools should be sited near open space areas such as parks and bikeways in order to promote joint use of facilities and good bicycle and pedestrian access. In urban villages, schools should be located adjacent to the "Village Core Residential" areas where densities are higher.

BCP Policy P-7.1: During the annexation process of any of any portion of the BCP, work with property owners and the school district to more definitively site potential schools in appropriate areas.

Due to their singular use and non-residential or employment nature, school sites should not be located within one-quarter mile of Mandeville Lane, or within the Mixed-Use Transit-Oriented Development place-type. Outside these areas, schools should be located near high population areas, share active recreational facilities; and be well connected to bikeways and sidewalks.

Schools that are designed with limited outdoor open space, dense populations and a small footprint may be appropriate within transit-oriented development

place-types, especially the mixed-use flex place-type. While these may take the form of private technical schools, the BCP would not preclude a public school with such design.

Public Services and Facilities Policy P-7.2

The City of Merced is fortunate to have well regarded institutions of higher education. The City is committed to promoting these institutions and facilitating their growth and development. For these reasons, the **Public Services and Facilities Policy P-7.2** of the *Merced Vision 2030 General Plan* spotlights the need to "**Support Higher Educational Opportunities."**

Coordinate Infrastructure Needs with UC Merced

Implementing Action P-7.2.b of the *Merced Vision 2030 General Plan* states, "**Work closely with both the Merced Community College District and University of California Chancellor's Office to assure that adequate community infrastructure is available to meet their institutional needs.** The City's street system, along with water, sewer, and drainage systems, serve the existing Merced College campus site and the UC Merced campus site. The City will work closely with Merced Community College and the UC system on future campus expansion and development plans, coordinate infrastructure extension, and upgrade programs to meet the development needs of these two campuses to the maximum extent feasible. The City anticipates and expects these institutions to pay their fair share of facility costs and to mitigate their impacts on the community.

C.7.9 Government, Health, Library and Cultural Facilities

Public Services and Facilities Policy P-8.1

The long term vision of the City of Merced is that of a major urban center in the San Joaquin Valley. With growth comes the normal problems of urban expansion but along with the problems, comes expanded opportunities. With the development of the UC Merced campus, many new cultural resources will become available in the City of Merced. The City's vision is to plan for the development of facilities which complement the expanded community resources and reflect the future status of Merced as a major metropolitan area in the region. For these reasons, the **Public Services and Facilities Policy P-8.1** of the *Merced Vision 2030 General Plan spotlights the need for the City to*

"support the cultural and health related needs of the community by incorporating such facilities and service in development and redevelopment proposals."

Encourage multicultural and performing arts programs in Downtown Merced.

Implementing Action P-8.1.b of the *Merced Vision 2030 General Plan* states, "**Encourage the continued operations of the multi-cultural and performing arts program and facilities in the Downtown area of Merced."** The City will work closely with civic groups and other public agencies in continuing to support arts programs in the Downtown area. The City will work closely with civic groups and other public agencies in continuing to support arts programs in the Downtown area.

Public Services and Facilities Policy P-8.2

The City of Merced recognizes that local governments are faced with increasingly limited resources and while demand for community services is constantly increasing. New ways of providing cost effective public services must be explored if existing service levels are to be maintained. For these reasons, the **Public Services and Facilities Policy P-8.2** of the *Merced Vision 2030 General Plan spotlights the need for the City to* **"Promote Consolidation of Complementary or Support Services to Avoid Duplication of Programs."**

Locate related public uses together in neighborhood centers.

Implementing Action P-8.2.a of the *Merced Vision 2030 General Plan* states, "**Senior centers, satellite libraries, adult education, recreation and/or other public facilities should be located in proximity to each other in each Village Core mixed-use area to allow for integrated activities to the maximum extent feasible."**
Specific plans, site plans and other development plans for Village Core areas should be reviewed to ensure that adequate area is available for the development of these types of uses. Not every village will have these facilities. However, when they are provided, they should be located in core areas where they will serve the population most efficiently.

BCP Policy P-8.1: Encourage senior centers, satellite libraries, adult education, recreation and/or other public facilities to locate near each other in neighborhood centers.

Emphasize Downtown as the Central Location for Public and Government Facilities.

Implementing Action P-8.2.b of the *Merced Vision 2030 General Plan* states, "**Continue to emphasize Downtown Merced as the central location for public and government facilities in the City (e.g., County and City government centers, civic center, post office, department of motor vehicles, federal and state offices, etc.).**" These facilities should be located in close proximity to, or adequately served by, public transportation.

BCP Policy P-8.2: Allow public and government offices and service centers in the Mixed-Use TOD place-type to enhance and support a community-related use within UCM's "Gateway" area.

Locate Child Care Centers close to High-Demand Sites.

Implementing Action P-8.2.c of the *Merced Vision 2030 General Plan* states, "**Encourage development of child care centers in all areas, including non-residential areas.** Locating child care facilities in areas with similar uses like schools and near employment centers will help reduce unnecessary vehicular trips and to facilitate parental involvement. The development of a Downtown child care center is of particular interest to the City.

BCP Policy P-8.3: Encourage child care centers to locate near schools and high-employment areas.

C.7.10 Telecommunications

Public Services and Facilities Policy P-9.1

Telecommunications infrastructure and services have been identified as important community resources, which are likely to be important to the continuing economic development of the community as basic infrastructure, such as sewer, water, and road systems. For these reasons, the **Public Services and Facilities Policy P-9.1** of the *Merced Vision 2030 General Plan spotlights the need to* **"develop city standards for telecommunications infrastructure and encourage its installation in all new development."**

Plans for Telecommunications Infrastructure

Implementing Action P-9.1.a of the *Merced Vision 2030 General Plan* states, "**The City will consider new development standards for the installation of telecommunications infrastructure so that new residential, commercial, and industrial development projects include the infrastructure components necessary to support modern communication technologies."** The City would develop plans and standards for the installation of telecommunications infrastructure. Examples would include conduit space within joint utility trenches for future high speed data equipment and flexible telephone conduit to allow for easy retrofit for high speed data systems. To minimize street cutting and trenching for the City, consideration should be given to requiring installation of conduit when streets are initially constructed. This conduit can be empty, and available for any and all service providers to fill with cable; filled with 'dark' fiber that is owned by the City, and leased for use by service providers; or, filled with 'lighted' fiber that allow the City to operate its own telecommunications services. Merced should develop a telecommunications infrastructure that is not dependent on any single medium, but incorporates a variety of media such as wireless and fiber optics as appropriate. Encourage new residential development to provide for the maximum reasonable bandwidth connectivity to each unit.

C.8 Sustainable Development

C.8.1 General Plan Goal and Policy Guidance

GP Goal Area SD-1: Air Quality and Climate Change

- Address Regional Air Quality Planning
- Coordinate Land Use and Transportation Planning
- Consult with Transit Providers
- Site Transit and Pedestrian Facilities near Housing
- Minimize Impacts of Large-scale Transportation Projects
- Enhance Urban Forest to improve Air Quality
- Improve Public Understanding
- Support Formation of Air Quality Education Programs
- Deploy Employer Based Trip Reduction Programs
- Install State of the Art Communication Infrastructure
- Implement Climate Action Planning
- Implement Air Quality Policies
- Implement Greenhouse Gas Reduction Policies

GP Goal Area SD-2: Cultural Resources

- Follow Guidance of the City's General Plan

GP Goal Area SD-3: Energy Resources

- Use Solar Energy in New Construction
- Maximize Solar Orientation of Subdivided Lots
- Encourage use of Solar Energy Technologies
- Utilize Passive Solar Design
- Update Standards to Reduce Energy Consumption
- Voluntary Actions to use Energy Efficient Designs and Equipment
- Promote Enhanced Energy Conservation Standards
- Reduce Air Quality Impacts from Area Sources and Energy Consumption
- Encourage Construction of LEED-Certified Buildings

C.8.2 Air Quality and Climate Change

Sustainable Development Policy SD-1.2

Effective coordination and cooperation between local agencies in the implementation of government air quality programs is critical. Air quality problems transcend local agency boundaries and management of these problems requires various units of government to search for comprehensive solutions to the problem. Local governments working together for a common interest can multiply the resources available to accomplish air quality goals. For these reasons, the **Sustainable Development Policy SD-1.2** of the *Merced Vision 2030 General Plan* spotlights the need to "**Coordinate Local Air Quality Programs with Regional Programs and Those of Neighboring Jurisdictions."**

Address Regional Air Quality Planning

Implementing Action SD-1.2.a of the *Merced Vision 2030 General Plan* states, "**Work with neighboring jurisdictions and affected agencies to address cross-jurisdictional and regional transportation and air quality issues."** The City can create an environment that allows and encourages staff members to keep up with activities in neighboring jurisdictions and regional agencies. This may be accomplished by sending representatives to appropriate meetings, by contacting counterparts in other agencies when developing programs, and most important, by active participation in regional program planning. The Planning Department, as required by law, maintains internal procedures to ensure that all affected jurisdictions and agencies are notified of development proposals. When another agency notifies the City of a pending project, air quality related issues, such as the following, should be examined:

1) Congestion on City streets from increased traffic caused by the project;
2) Effects on the viability of transit and pedestrian-oriented developments in the area (i.e., approval of a low density development on the same transit corridor as a transit-oriented development could reduce the ability of the transit provider to provide reasonable headways);
3) Failure of the other jurisdiction to require the construction of a segment of a bikeway planned in the regional bikeway plan; and/or,
4) Proposed circulation amendments that may restrict traffic flow to or from the City or that produce urban sprawl.

BCP Policy UD-2.3: Continue to work with UC Merced and Merced County on cross-jurisdictional, regional transportation and air quality issues, as described in *Merced Vision 2030 General Plan* policy SD-1.2.

In the future, a functional and interconnected network of regional roadways, transit service and community-wide bikeways will be essential to the formation of a quality living environment near and within the BCP. Lack of coordination between agencies with jurisdiction in the area will likely result in a suite of negative transportation, land use and air quality impacts.

Sustainable Development Policy SD-1.3

In the past, transportation planning emphasized the construction of new roadway capacity to reduce congestion and to meet the needs of planned development. Air quality legislation now mandates all transportation plans to consider air quality. This new emphasis requires our land use and transportation plans to create patterns of development and transportation infrastructure that reduce the need for new capacity and improve air quality. For these reasons, the **Sustainable Development Policy SD-1.3** of the *Merced Vision 2030 General Plan* spotlights the need to "**Integrate Land Use, Transportation, and Air Quality planning for the Most Efficient Use of Public Resources and for a Healthier Environment."**

Coordinate Land Use and Transportation Planning

Implementing Action SD-1.3.a of the *Merced Vision 2030 General Plan* states, "**The City of Merced will consider air quality when planning the land uses and transportation systems to accommodate the expected growth in this community."**
Develop coordinated land use and transportation plans to meet federal, state, and local air quality requirements. Ensure that land uses proposed in general plan updates and general plan amendments are supported by a multi-modal (auto, transit, bicycling, pedestrian, etc.) transportation system and that the land uses themselves support the development of the transportation system.

Deploy Transportation Projects consistent with Air Quality Goals and Policies

Implementing Action SD-1.3.b of the *Merced Vision 2030 General Plan* states, "**Transportation improvement should be consistent with the air quality goals and policies of the General Plan."** Analyze project submittals for consistency. Examples of inconsistent projects are a road widening project that does not consider transit, bicycling, and pedestrian needs along the route or an intersection signalization project

that does not involve the installation of signal actuators that can be activated by bicyclists or pedestrians.

Consult with Transit Providers

Implementing Action SD-1.3.c of the *Merced Vision 2030 General Plan* states, "**The City of Merced will consult with transit providers to determine project impacts on long range transit plans and ensure that impacts are mitigated."** Work with transit providers to develop long range transit plans based on land use plans supportive of future transit service. Consult with transit providers during the CEQA process to determine the impacts of development projects on the transit system.

Site Transit and Pedestrian Facilities near Housing

Implementing Action SD-1.3.d of the *Merced Vision 2030 General Plan* states, "**Encourage the construction of low income housing developments that use transit-oriented and pedestrian-oriented design principles."** The Village Plan policies provide sufficient density to make public transit feasible. The City, in cooperation with other public agencies, may explore the use of special funding sources which could assist in financing necessary infrastructure which would enhance residential development and maintain affordability for low and moderate income households.

Minimize Impacts of Large-scale Transportation Projects

Implementing Action SD-1.3.e of the *Merced Vision 2030 General Plan* states, "**The City of Merced will work with Caltrans and MCAG, the Regional Transportation Planning Agency, to minimize the air quality, and mobility impacts of large scale transportation projects on existing neighborhoods."** Use existing rail right of ways where feasible. Provide safe pedestrian and bicycle connections between neighborhoods and shopping areas when they become separated by new rail or freeway projects.

Enhance Urban Forest to improve Air Quality

Implementing Action SD-1.3.f of the *Merced Vision 2030 General Plan* states, "**Provide for installation and maintenance of additional landscaping which helps maintain and improve air quality, by continuing to increase the extent of landscaped areas in the City using street trees, parking lot shading, median islands, and landscape buffers."** The City has a strong history of requiring the planting of trees (i.e. street trees, parking lot trees) and landscaping on residential, commercial, and industrial projects and that tradition will continue.

Sustainable Development Policy SD-1.4

Without the understanding and support of the general public, local air quality programs cannot be expected to achieve the desired results. Programs to educate the public on air quality issues are a vital component of a successful air quality program. For these reasons, the **Sustainable Development Policy SD-1.4** of the *Merced Vision 2030 General Plan* spotlights the need to "**Educate the Public on the Impact of Individual Transportation, Lifestyle, and Land Use Decisions on Air Quality."**

Improve Public Understanding

Implementing Action SD-1.4.a of the *Merced Vision 2030 General Plan* states, "**Work to improve the public's understanding of the land use, transportation, and air quality link."** The City should support the SJVUAPCD efforts to educate developers and the public on the benefits of pedestrian and transit friendly development and should participate in local programs that can reduce vehicle trips and miles traveled.

Support Formation of Air Quality Education Programs

Implementing Action SD-1.4.b of the *Merced Vision 2030 General Plan* states, "**Support SJVAPCD efforts to encourage formation of local groups that provide air quality education programs."** The City supports the SJVAPCD efforts in forming a community-wide public/private air quality organization to promote air quality education programs. To this end, the City will work with the SJVAPCD, Farm Bureau, the University of California Extension Studies, farm organizations, and other community-based air quality groups on educational programs.

Sustainable Development Policy SD-1.5

City and county governments are often the largest employers in a jurisdiction and operate large vehicle fleets. While it is recognized that the City of Merced has very limited resources with which it can play any meaningful role in supporting private sector energy conservation efforts, the City can pursue policies and programs which may have private sector applicability. In this respect, the City may take a leadership role in implementing employer-based trip reduction programs and fleet operator programs to reduce the City's emissions, demonstrate cost effective energy management techniques, and save public money. For these reasons, the **Sustainable Development Policy SD-1.5** of the *Merced Vision 2030 General Plan* spotlights the need to "**Provide Public Facilities and Operations that Can Serve as a Model for the Private Sector in Implementation of Air Quality Programs."**

Deploy Employer Based Trip Reduction Programs

Implementing Action SD-1.5.a of the *Merced Vision 2030 General Plan* states, "**Continue to support, encourage, and implement to the extent feasible innovative employer-based trip reduction programs for their employees."** Ensure that employment contracts negotiated with employee unions are flexible and allow workers to participate in programs that reduce commute trips, such as staggered work hours, incentives for using public transit, car pools, etc.

BCP Policy UD-2.4: Through the permitting process, implement employer-based trip reduction programs for employees who work in the BCP plan area.

The BCP planning area includes sizable amounts of land for future employment-based land uses. The BCP is also planned to provide a broad range of functional mobility options including transit, bicycles, pedestrians and cars and trucks. Employer based vehicle trip-reduction programs compliments these features. Consistent with existing General Plan Sustainable Development Policy SD-1.2, the City should implement innovative employer-based trip reduction programs.

Install State of the Art Communication Infrastructure

Implementing Action SD-1.5.e of the *Merced Vision 2030 General Plan* states, "**Encourage the development of state of the art communication infrastructure linked to the rest of the world."** Support changes to the State Building Code to encourage new homes and businesses to be wired with fiber-optic cables or to encourage wiring conduits with easy access and adequate capacity to allow for efficient retrofitting. Encourage the development of video-teleconferencing facilities and telecommuting centers. The City should study formation of public/private partnerships with major employers employing large numbers of long distance commuters. Telecommuting centers are generally compatible with mixed-use, pedestrian-oriented and transit-oriented neighborhood commercial areas.

Sustainable Development Policy SD-1.7

Through recent changes in State and Federal law, local governments like the City of Merced have begun to pay more attention to what can be done regarding Climate Change and Greenhouse Gas reduction on the local level. For these reasons, the **Sustainable Development Policy SD-1.7** of the *Merced Vision 2030 General Plan* spotlights the need to "**Develop and Implement a Climate Action Plan for the City."**

Implement Climate Action Planning

Implementing Action SD-1.7.a of the *Merced Vision 2030 General Plan* states, "**Complete the development and implementation of a Climate Action Plan for the City of Merced."** In 2009, City staff began preparation of a Climate Action Plan for the City, which is expected to be completed by no later than September 2012. The Climate Action Plan will include an evaluation of existing City and community programs aimed at reducing greenhouse gas emissions; an evaluation of other City programs, that although established for other purposes, also have greenhouse gas reduction benefits; an evaluation of greenhouse gas emissions efforts of other Cities in the State; a discussion of the legal framework, including State and Federal laws; an evaluation of possible available funding sources; a baseline greenhouse gas emission inventory for the City; the selection of an Emissions Reduction Target; and finally, recommended goals, policies, and actions to reach the selected Emissions Reduction Target. The development of the Climate Action Plan will involve a citizens committee and extensive involvement of elected officials.

BCP Policy UD-2.5: Consistent with existing General Plan Sustainable Development Policy SD-1.7, the City should apply applicable greenhouse gas reduction actions to development and activities within the BCP.

The City's October 2012 Climate Action Plan includes recommended actions that support a broad range of community values related to resource conservation, energy efficiency, use of renewable energy, building healthy communities and establishing leadership and partnerships.

Sustainable Development Policy SD-1.8

The City's General Plan contains policies in various chapters that address air quality and greenhouse gas emissions reduction goals. For these reasons, the **Sustainable Development Policy SD-1.8** of the *Merced Vision 2030 General Plan* spotlights the need to "**Implement Policies in Other General Plan Chapters to Address Air Quality and Greenhouse Gas Emissions Reduction Goals."**

Implement Air Quality Policies

Implementing Action SD-1.8.a of the *Merced Vision 2030 General Plan* states, "**Continue implementation of land use, transportation, urban expansion, urban design, open space, and public facilities General Plan policies that address air quality goals."** State law now requires cities and counties in the San Joaquin Valley Air Basin to amend

their General Plans to include goals, policies, and implementing strategies to improve air quality. The San Joaquin Valley Air Pollution Control District has issued Air Quality Guidelines for General Plans (June 2005), which contains suggested goals and policies for General Plans. When the Merced Vision 2015 General Plan was adopted in 1997, many of the suggested air quality policies were included in the General Plan and are still included in this Vision 2030 General Plan. Many of these policies are presented in the Sustainable Development Chapter, but many of these policies are spread throughout the General Plan in the Urban Expansion, Land Use, Transportation, Public Facilities & Services, Urban Design, Open Space, and other chapters. Below is a list of topics addressed along with the General Plan policies found elsewhere in this document that relate to air quality goals:

Sustainable Development-Air Quality Policies:

- Environmental assessment of development (Policies SD-1.1)
- Coordination with Air District (Policies SD-1.2 & SD-1.6)
- Measures to reduce energy consumption (Policies SD-3.1, SD-3.2, SD-3.3)
- Urban Expansion Policies:
- Establishment of urban limit lines (Policies UE-1.1, UE-1.2, & UE-1.3)
- Encouragement of Compact and In-fill Development (Policies U.E-1.2; Land Use L-2.8 & L-3.2: and Public Facilities P-1.2

Land Use Policies:

- Encouragement of Mixed-use Development (Policies L-1.1, L-1.2, L-1.7, L-2.7)
- Increased residential densities (Policies L-1.2, L-1.7, L-3.1)
- Encouragement of Transit-Oriented Development or the City's Village Concept (Policies L-3.1; Transportation T-1.5; Urban Design UD-1.1 through UD-1.5)
- Pedestrian-oriented or pedestrian-friendly developments (Policies L-2.7, L-3.1, L-3.3: Transportation T-2.7 & T-2.8)
- Locating services near employment centers (Policies L-1.1, L-1.2, L-1.7, L-2.1, L-2.4, L-2.6, and L-2.9)

Transportation Policies:

- Dedicated transit corridors or "Transitways" (Policies T-2.1, T-2.2, T-2.3)
- An interconnected street system (Policies Land Use L-2.7 and L-3.3: Transportation T-1.2 and T-1.3
- Trip reduction measures (Land Use L-2.9, Transportation T-2.9, Sustainable Development SD-1.5)
- Encouragement of bicycles as a transportation option (Land Use L-3.3; Transportation T-2.4, T-2.5, T-2.6; Public Facilities P-5.2; Open Space OS-3.2)

- Development of multi-modal (all forms of transportation) developments, including highway-oriented developments (Policies Transportation T-1.5, & T-3.5; Urban Expansion UE-1.1; and Land Use L-2.10)
- Congestion management programs (Policies T-2.9)

Implement Greenhouse Gas Reduction Policies

Implementing Action SD-1.8.b of the *Merced Vision 2030 General Plan* states, "**Continue implementation of land use, transportation, urban expansion, urban design, open space, and public facilities General Plan policies that address greenhouse gas emissions reduction goals."** The City has begun preparation of a Climate Action Plan (SD-1.7) which will address goals, policies, and actions relating to reducing greenhouse gas emissions. In the interim, staff was referred to recommendations from the California Air Pollution Control Officers Association (CAPCOA), entitled "Model Policies for Greenhouse Gases in General Plans" (June 2009). When the Merced Vision 2015 General Plan was adopted in 1997, many of the suggested greenhouse gas policies from the document above were already included in the General Plan and are still included in this Merced Vision 2030 General Plan. Many of these policies are presented in the Sustainable Development Chapter, but many of these policies are spread throughout the General Plan in the Urban Expansion, Land Use, Transportation, Public Facilities & Services, Urban Design, Open Space, and other chapters. Below is a list of topics addressed along with the General Plan policies found elsewhere in this document that relate to greenhouse gas emission reduction goals:

Urban Expansion Policies:

- Establishment of urban limit lines (Policies UE-1.1, UE-1.2, & UE-1.3)
- Encouragement of Compact and In-fill Development (Policies U.E-1.2; Land Use L-2.8 & L-3.2: and Public Facilities P-1.2

Land Use Policies:

- Encouragement of Mixed-use Development (Policies L-1.1, L-1.2, L-1.7, L-2.7)
- Increased residential densities (Policies L-1.2, L-1.7, L-3.1)
- Encouragement of Transit-Oriented Development or the City's Village Concept (Policies L-3.1; Transportation T-1.5; Urban Design UD-1.1 through UD-1.5)
- Pedestrian-oriented or pedestrian-friendly developments (Policies L-2.7, L-3.1, L-3.3: Transportation T-2.7 & T-2.8)
- Locating services near employment centers (Policies L-1.1, L-1.2, L-1.7, L-2.1, L-2.4, L-2.6, and L-2.9)

Transportation Policies:

- Dedicated transit corridors or "Transitways" and emphasis on public transit (Policies T-2.1, T-2.2, T-2.3)
- An interconnected street system (Policies Land Use L-2.7 and L-3.3: Transportation T-1.2 and T-1.3
- Trip reduction measures (Land Use L-2.9, Transportation T-2.9)
- Encouragement of bicycles as a transportation option (Land Use L-3.3; Transportation T-2.4, T-2.5, T-2.6; Public Facilities P-5.2; Open Space OS-3.2)

Public Facilities Policies:

- Higher development fees based on distance from City center (Policies P-1.1 & P-1.3)
- Solid waste diversion targets (Policies P-6.1 & P-6.2)
- Hazardous materials management (Safety Policies S-7.1, S-7.2, & S-7.3)
- Water conservation (Policies Public Facilities P-3.1; and Open Space OS-5.1)
- Recycled water (Policies P-3.2, P-4.2)

Open Space Policies:

- Urban forest management & shade tree planting (Policies OS-1.4 and Transportation T-2.7)

C.8.3 Cultural Resources

Follow the guidance in the City's General Plan

C.8.4 Energy Resources

Sustainable Development Policy SD-3.1

Merced is located in an area that can benefit from the use of solar energy technology and other alternative energy resources to lower household heating and cooling costs. For these reasons, the **Sustainable Development Policy SD-3.1** of the *Merced Vision 2030 General Plan* spotlights the need to "**Promote the Use of Solar Energy Technology and Other Alternative Energy Resources."**

Solar Energy

Implementing Action SD-3.1.a of the *Merced Vision 2030 General Plan* states, "**Encourage the use of solar energy in design and management of all new construction in the City."** The City should work with members of the building and utility industries in identifying public policies and regulations which inhibit the construction of energy efficient development. The City should prepare guidelines and standards which can be used by members of the construction industry in the design of new building and development projects.

Solar Orientation of Subdivided Lots

Implementing Action SD-3.1.b of the *Merced Vision 2030 General Plan* states, "**Require all new subdivisions to maximize, to the extent feasible, proper orientation of lots with regard to solar utilization."** Proper solar orientation of lots often results in inefficient or poor circulation system designs. Good subdivision design attempts to maximize the benefits of lot orientation for solar access while maintaining the optimum circulation system design. The City planning staff may develop a library of subdivision design concepts that have proven effective in furthering energy conservation goals in other similarly situated communities and the City of Merced. This information should be made available to real estate developers and home builders.

Encourage use of Solar Energy Technologies

Implementing Action SD-3.1.c of the *Merced Vision 2030 General Plan* states, "**Encourage developers and builders to properly design all structures on each building lot in the City to take fullest advantage of solar use in heating and cooling."** The City planning staff might develop a library of building design concepts that have proven effective in furthering building energy conservation goals in other similarly situated communities. This information should be made available to real estate developers and home builders.

Utilize Passive Solar Design

Implementing Action SD-3.1.d of the *Merced Vision 2030 General Plan* states, "**Encourage developers and builders to maximize "passive" solar design, such as large south-facing windows for winter heat gains and overhangs and shading for summer heat protection."** The City should collect and make available to builders and homeowners design solutions to passive solar construction problems and support local the building industry's efforts to comply with State regulations on energy conservation design standards.

Update Standards to Reduce Energy Consumption

Implementing Action SD-3.1.e of the *Merced Vision 2030 General Plan* states, "**Pursue further investigation of potential benefits utilizing building code revision, narrower streets, solar access rights, and other energy-saving techniques."** The City should continue to monitor policy developments at the state level and in other San Joaquin Valley communities to determine the most efficient and effective design policies which might be applied to new development in the City. Where appropriate, staff should recommend changes in policies and standards where it can be demonstrated that such changes will appreciably reduce energy consumption.

Sustainable Development Policy SD-3.2

Natural gas burning appliances used for space heating, water heating, and cooking are a sizable source of NOx emissions. Consumption of electricity causes pollutant emissions when the power plant is fueled by fossil fuels. Local efforts to reduce energy consumption can save consumers money and improve air quality. For these reasons, the **Sustainable Development Policy SD-3.2** of the *Merced Vision 2030 General Plan* spotlights the need to "**Encourage the Use of Energy Conservation Features, Low-Emission Equipment, and Alternative Energy Sources for All New Residential and Commercial Development."**

Voluntary Actions to use Energy Efficient Designs and Equipment

Implementing Action SD-3.2.a of the *Merced Vision 2030 General Plan* states, "**Work with the local energy providers on voluntary incentive-based programs to encourage the use of energy efficient designs and equipment.**

- Encourage the incorporation of energy conservation features in the design of all new construction and the installation of conservation devices in existing developments.
- Encourage energy audits of existing structures, identifying levels of existing energy use and potential conservation measures.
- Encourage the use of passive design concepts that make use of the natural climate to increase energy efficiency.
- Encourage new development not to preclude the use of solar energy systems by uses and buildings on adjacent properties.

- Incorporate the most energy-efficient design consistent with a reasonable rate of return and the recognition of the environmental benefits of energy conservation for all local government facilities and equipment.
- Perform an energy audit of existing public buildings and retrofit where cost-effective.

Develop an energy management system for public buildings."

Promote Enhanced Energy Conservation Standards

Implementing Action SD-3.2.of the *Merced Vision 2030 General Plan* states, "**Cooperate with the local building industry, utilities and the SJVAPCD to promote enhanced energy conservation standards for new construction."** Work with the California Energy Commission (CEC) and local utilities to identify areas of the existing state standards that can be enhanced most cost-effectively.

Reduce Air Quality Impacts from Area Sources and Energy Consumption

Implementing Action SD-3.2.c of the *Merced Vision 2030 General Plan* states, "**Encourage new residential, commercial, and industrial development to reduce air quality impacts from area sources and from energy consumption.**

- Support the use of weatherization programs for existing residential units and businesses.
- Encourage the installation of supplemental solar water heaters for new residential units.
- Support future SJVAPCD incentives and regulations to reduce emissions from swimming pool heaters.
- Encourage the use of solar water and pool heaters, and energy efficient lighting.
- Encourage developers to orient housing units and landscape building sites to maximize solar heating and cooling.
- Encourage the installation of energy efficient fireplaces and wood stoves in lieu of normal open hearth fireplaces.
- Establish standards for the provision of natural gas lines or electrical outlets to backyards to encourage the use of natural gas or electric barbecues, and electric gardening equipment.
- Support the use of electric vehicles, such as golf carts, where appropriate. Provide electric recharge facilities for electric vehicles.

- Encourage the installation of natural gas hook-ups for washers and dryers in housing units"

Encourage Construction of LEED-Certified Buildings

Implementing Action SD-3.2.d of the *Merced Vision 2030 General Plan* states, "**Encourage builders to develop "green" and/or LEED-Certified (or other similar programs) buildings."** The City should consider developing incentives to encourage builders (residential, commercial, and industrial) to develop "green" or LEED-certified buildings. The Leadership in Energy and Environmental Design (LEED) Green Building Rating System, developed by the U.S. Green Building Council (USGBC), provides a suite of standards for the environmentally sustainable design, construction and operation of buildings and neighborhoods.

BCP Policy UD-2.6: All new City facilities in the BCP plan area should be designed, equipped and operated to conserve energy at a higher level than current practice.

Led by the City's Development Services Department, in coordination with the Public Works Department, and others as appropriate, a comprehensive action plan to implement this policy should be developed. As an initial step, the targeted level of energy conservation should be set by the City Council. The action plan would include all City facilities, including but not limited to buildings, external lighting, and pumps. The City should involve local industry representatives, other public agencies, local schools, colleges and universities, and the general public in the development of the action plan. Existing guidelines and codes related to energy use should be considered and updated to emphasize energy efficiency. This work could be funded and supported through grants and local partnerships.

NELSON
NYGAARD

MEMORANDUM

Date: March 21, 2014

Subject: *Bellevue Community Plan*: Traffic Comparison with General Plan

PURPOSE

This memorandum provides an assessment of the net change in future traffic volumes under the proposed *Bellevue Community Plan* (BCP) in comparison with the land uses currently allowed under the adopted Merced *Vision 2030 General Plan* (GP).

STREET NETWORK

Figure 1 shows the basic street network envisioned by the GP, with most traffic to be accommodated on a grid of 4 to 6 lane arterial streets, with one-mile spacing between each arterial. Under the GP, collector streets would provide direct access from specific development areas to adjacent arterials, but collectors would not serve a significant volume of through traffic.

Figure 2 shows the street network envisioned by the BCP, with 2-lane collectors placed at approximately quarter-mile distances from each arterial. Each 2-lane collector could accommodate 13,000 to 20,000 daily vehicles, thus dispersing traffic to a greater degree than envisioned under the GP. Collector roads in the GP are not intended to serve through traffic. Thus, the GP traffic model loaded through traffic via the arterial street network (not based on the shortest route) up to the capacity of each arterial. The BCP includes several continuous collectors, parallel to arterials that connect directly to plan area destinations and other collector and arterial streets, and thus carry some amounts of through traffic.

FUTURE TRAFFIC VOLUMES

Figure 3 shows the anticipated daily traffic volume on each of the key streets in the area based on the GP travel demand forecast, with the vast majority of traffic accommodated on the one-mile grid of arterial streets.

- Bellevue Road is forecasted to carry between 50,000 and 60,000 daily within the BCP area. This volume of traffic s extremely high for an arterial street, but is consistent with a regional highway or expressway. This volume will typically require a 6-lane configuration (and/or 8 lanes in some cases).
- The other key arterials bordering the BCP planning area are forecasted to carry between 26,000 and 30,000 daily vehicles within the study area. This volume of traffic will typically require a 4-lane arterial configuration.
- The total volume on the north-south and east-west arterials that serve the planning area is over 200,000 daily car trips, based on the General Plan forecast of trip generation with buildout of citywide land uses.

Figure 1 General Plan -- Planned Arterial Grid Network

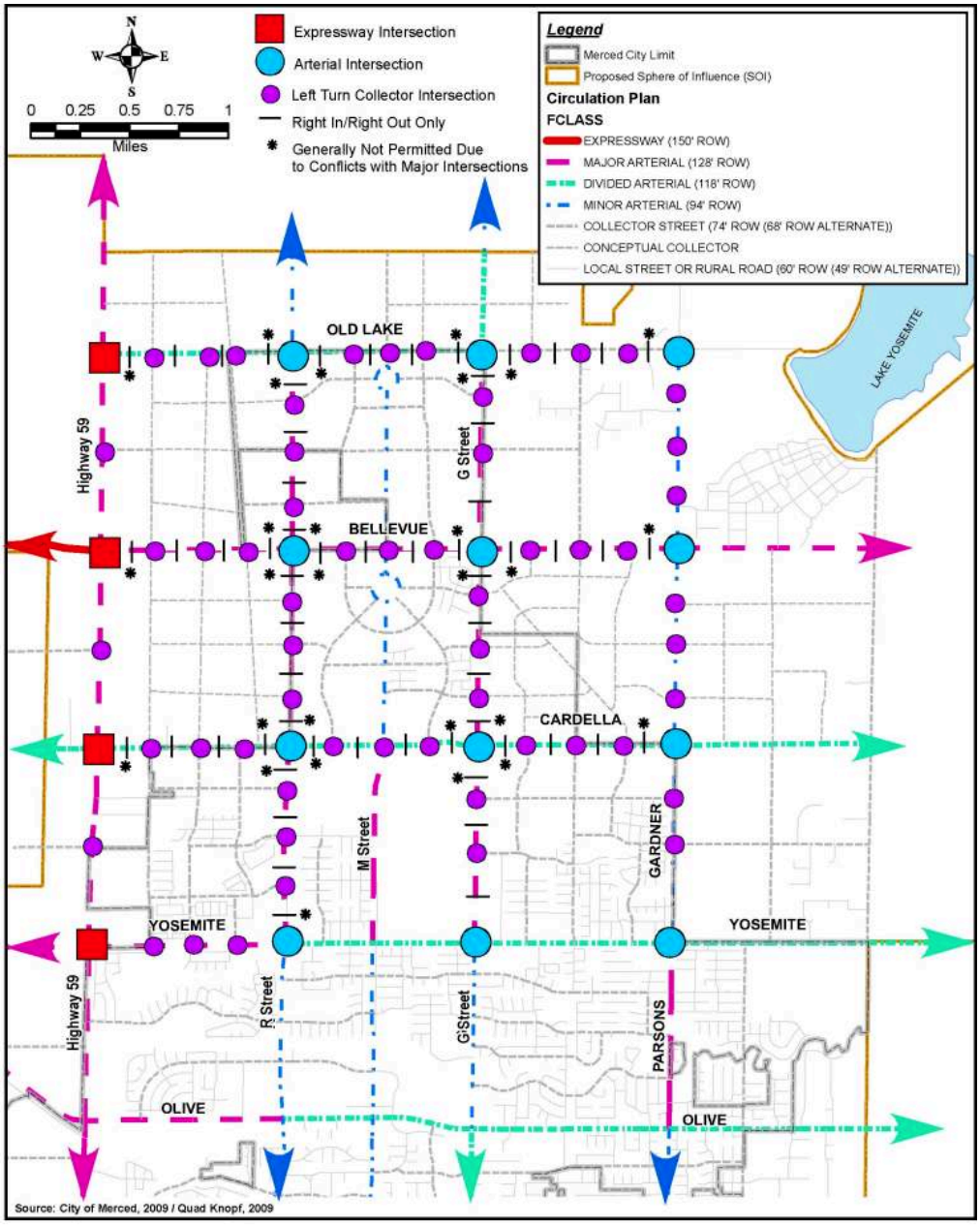


Figure 2 Bellevue Community Plan -- Proposed Grid with Collectors Accommodating Greater Share of Through Traffic

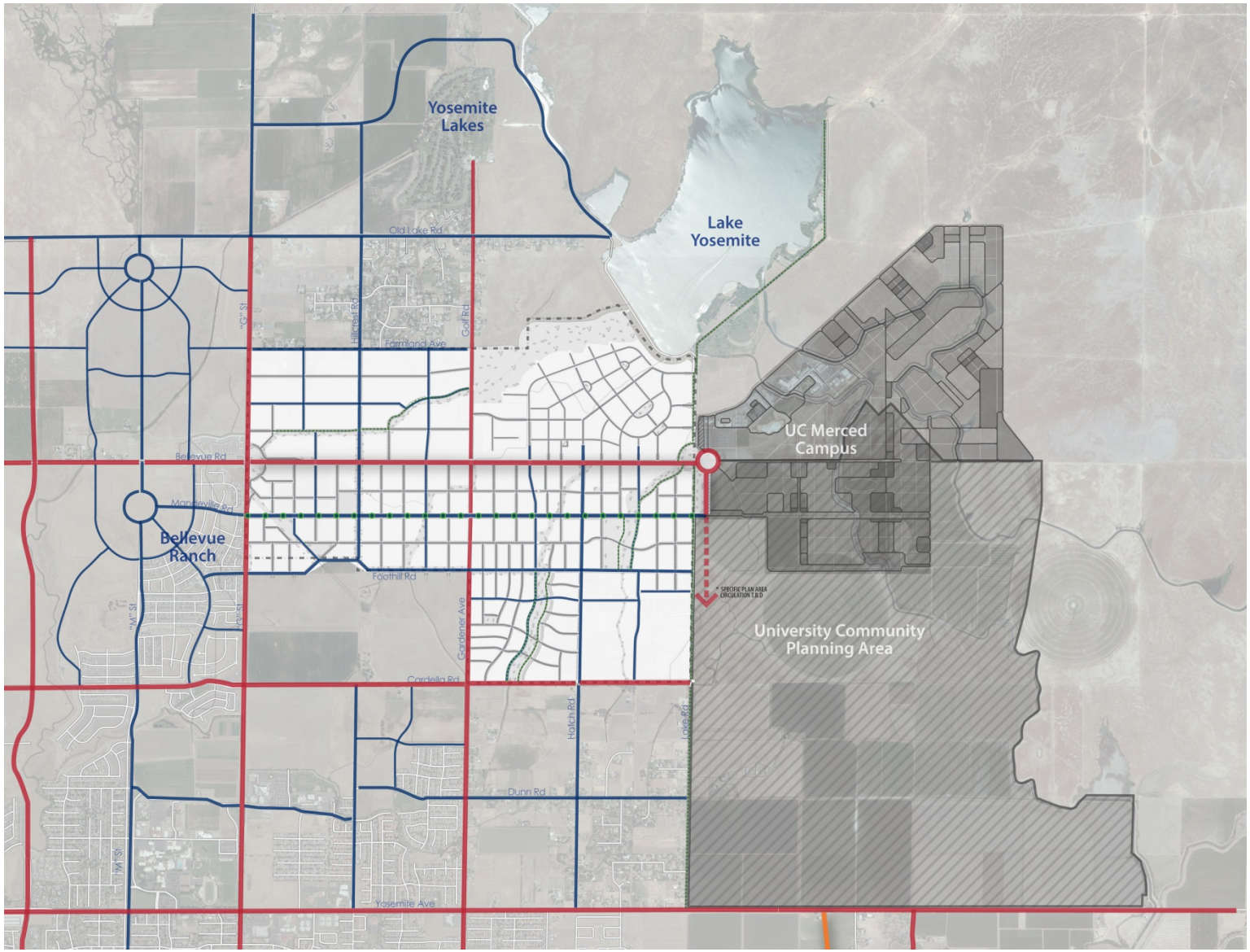
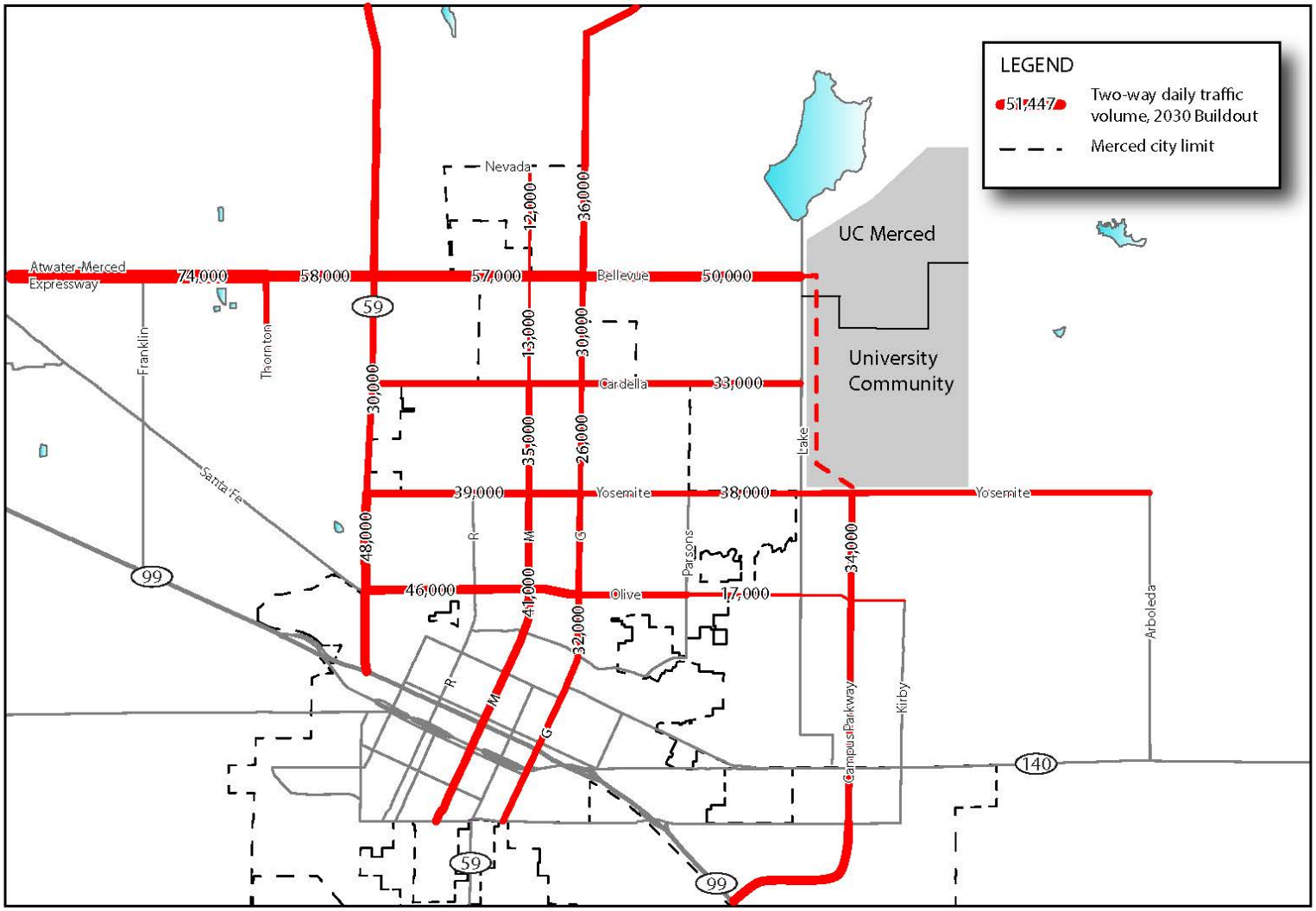


Figure 3 General Plan – Anticipated Daily Traffic Volumes on Key Roadways



POTENTIAL CHANGE IN TRAFFIC VOLUME UNDER BCP

Development Assumptions under GP and BCP

BCP Technical Appendix A provides a description of anticipated development within the planning area under the GP. Tables D-1 through D-4 and Figure 4 summarize information described in Appendix A.

The volume of anticipated development is described in Appendix A for each traffic analysis zone (TAZ). The travel demand forecast and accompanying traffic study that was prepared for the *Merced Vision 2030 General Plan* described anticipated land uses within Traffic Analysis Zones (TAZs). TAZs define land uses by number of dwelling units and employees per acre, within a geographic area. These figures are partly determined by anticipated land uses acreages.

Figure 4 shows the location of TAZs relative to the study area of the BCP. TAZ's 76, 77, and 87 extend past the boundary of the BCP study area. TAZ 86 is completely within the BCP study area. In order to define the anticipated land use acreages within the study area, 809 acres of land uses that occur outside the study area were trimmed from the TAZ data sets. In this manner, a set of defined land uses, consistent with the traffic study that was prepared for the *Merced Vision 2030 General Plan*, was created to serve as a parameter to help define the land use plan for the BCP (see Table A-2 in Appendix A for additional information as described above).

Table D-1 GP & BCP Land Use Types

Land Use Types	***Merced Vision 2030 General Plan***	***Bellevue Community Plan (BCP)***
	General Plan Land Use Designations	BCP Character Areas
Single-Family	- Rural Residential (RR) - Low Density Residential (LD)	- Rural Neighborhood - Single Family Neighborhood
Multifamily	- Low Medium Density (LMD) - High Medium High Density (HMD) - High Density (HD) - Village Residential (VR)	- Multifamily Neighborhood - Mixed-Use TOD
Retail	- Neighborhood Commercial (CN) - Commercial Thoroughfare (CT)	- Neighborhood Commercial - Mixed-Use TOD
Office	- Commercial Office (CO) - Business Park (BP)	- R&D Employment District - Mixed-Use TOD
Open Space	- Open Space/Parks Recreation - Future Parks	- Open Space - Future Schools
Schools	- Future Schools	- Future Schools

Source: Bellevue Community Plan, Appendix A:

Figure 4 Traffic Analysis Zone (TAZ) Map

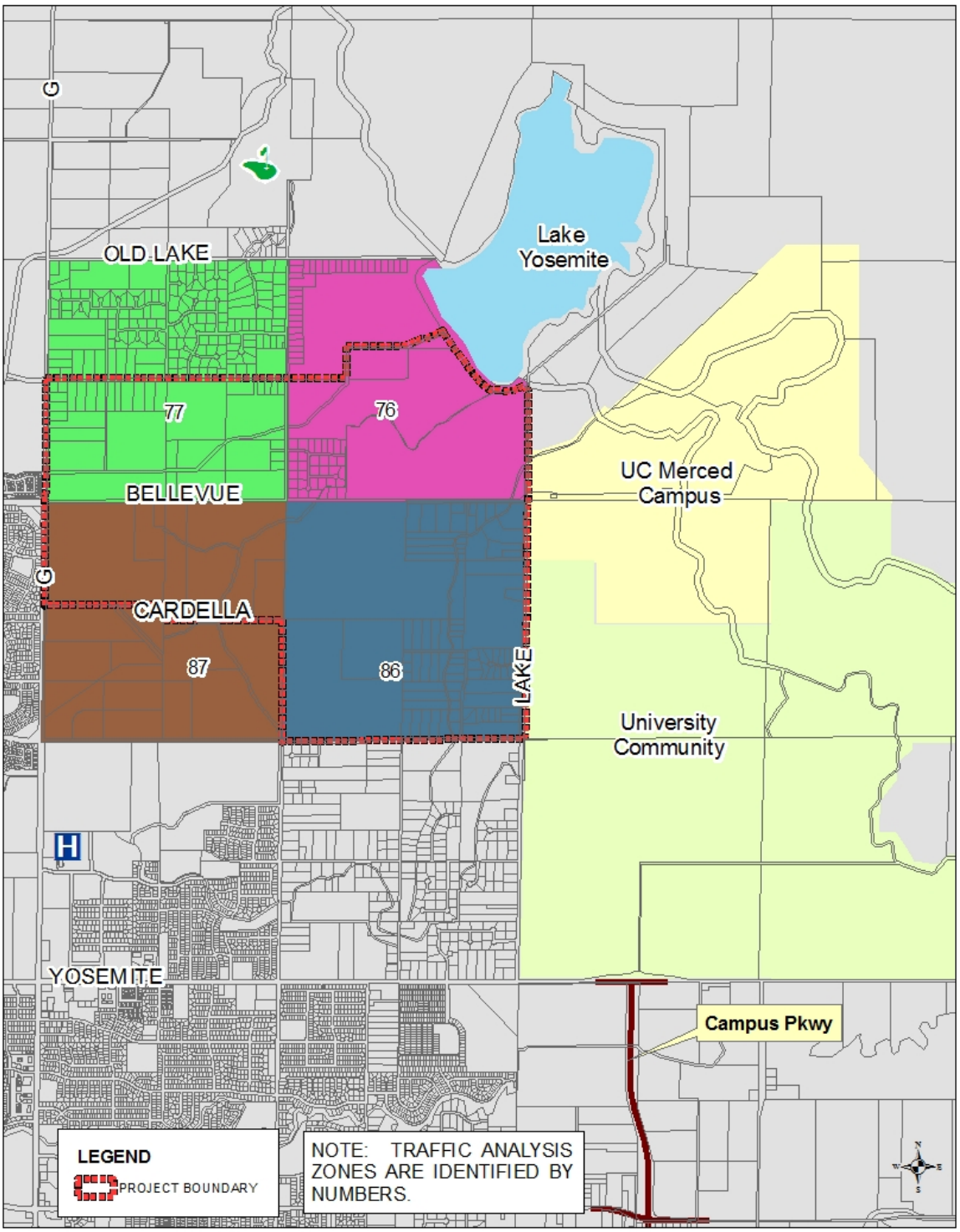


Table D-2 Comparison of Development Capacity by TAZ

		General Plan	RR	LD	LMD	HMD	HD	VR	CT	CN	CO	BP	
		BCP	Rural	Single Family		MF Med	MFHigh	N/A	Retail		Business Park		Total
TAZ 76	Residential Units	General Plan Projection for BCP A	39	317	376	406	769						1,905
		BCP Residential Units	**51**	**696**		**513**	**788**						**2,048**
	Square Footage	General Plan Estimate for BCP[1]							85,600	173,600	0	183,600	442,800
		BCP Square Footage[2]							**221,111**		**211,919**		**433,030**
	Employment	General Plan Projection for BCP							214	434		612	1,260
		BCP Employees[3]							**553**		**706**		**1,259**
TAZ 77	Residential Units	General Plan Projection for BCP Area		640	138		517	479					1,774
		BCP Residential Units	**198**	**770**		**736**	**0**						**1,703**
	Square Footage	General Plan Estimate for BCP[1]							83,200	202,400	211,500	108,000	605,100
		BCP Square Footage[2]							**128,890**		**276,192**		**405,082**
	Employment	General Plan Projection for BCP							208	506	705	360	1,779
		BCP Employees[3]							**322**		**921**		**1,243**
TAZ 86	Residential Units	General Plan Projection for BCP A	181	1,004	129	350	389						2,053
		BCP Residential Units	**300**	**1,107**		**515**	**281**						**2,203**
	Square Footage	General Plan Estimate for BCP[1]							78,000	189,600	198,300	517,500	983,400
		BCP Square Footage[2]							**74,761**		**1,075,540**		**1,150,301**
	Employment	General Plan Projection for BCP							195	474	661	1,725	3,055
		BCP Employees[3]							**187**		**3,585**		**3,772**
TAZ 87	Residential Units	General Plan Projection for BCP Area		536	163								699
		BCP Residential Units		**299**		**287**	**135**						**720**
	Square Footage	General Plan Estimate for BCP[1]							61,200	159,600	154,800	517,500	893,100
		BCP Square Footage[2]							**56,168**		**1,365,704**		**1,421,872**
	Employment	General Plan Projection for BCP							153	399	516	1,725	2,793
		BCP Employees[3]							**140**		**4,552**		**4,693**
TOTAL	Residential Units	General Plan Projection for BCP A	220	2,496	806	755	1,675	479					6,431
		BCP Residential Units	**549**	**2,872**		**2,051**	**1,203**						**6,675**
	Square Footage	General Plan Estimate for BCP[1]							308,000	725,200	564,600	1,326,600	2,924,400
		BCP Square Footage[2]							**480,930**		**2,929,356**		**3,410,285**
	Employment	General Plan Projection for BCP							770	1,813	1,882	4,422	8,887
		BCP Employees[3]							**1,202**		**9,765**		**10,967**

Table D-3 Comparison of Overall Development Capacity – Dwelling Units & Employment

Land Use Types	*Merced Vision 2030 General Plan*	*Bellevue Community Plan (BCP)*
Dwelling Unit Related Uses	Total Dwelling Units	Total Dwelling Units
Single-Family	3,522	3,421
Multifamily	2,909	3,254
Total	*6,431*	*6,675*
Employee Related Uses	Total Employees	Total Employees
Retail	2,583	1,292
R&D/Office	6,305	9,765
Total	*8,989*	*10,967*
Other Uses	Total Acreage	Total Acreage
Open Space	138	165
Schools	30	48

Source: Bellevue Community Plan, Appendix A

Table D-4 Comparison of Overall Development Capacity – Dwelling Units & Commercial Sq Ft

Development Capacity Comparison			
		GP	**BCP**
		Total	**Total**
Residential	Single-family dwellings	3,522	3,420
	Multi-family dwellings	2,909	3,255
	Total dwelling units	***6,431***	***6,675***
R&D / Office	Commercial Office (CO) / Services	564,600	
	Business Park (BP) / Office R&D	1,326,600	
	Total CO / BP square feet	***1,891,200***	***2,929,356***
Retail	Thoroughfare Commercial (CT)	308,000	
	Neighborhood Commercial (CN)	725,200	
	Total retail square feet	***1,033,200***	***480,930***
Summary Comparison of Development Capacity			
	Residential (dwelling units)	**6,431**	**6,675**
	Commercial (square feet)	**2,924,400**	**3,410,286**

TRIP GENERATION COMPARISON

Rates of Trip Generation

Table D-5 provides a comparison of unadjusted vehicle trip generation rates for each of the land use types. Rates of trip generation vary by land use type:

- **Employment-related land uses** – such as General Office and Research & Development (R&D) generate between eight (8) and eleven (11) daily vehicle trips per 1,000 square feet of commercial (non-retail) development. During the AM Peak, over 80 percent of trips are inbound to each site, given the large portion of work trips that occur during the AM Peak. This peaking pattern repeats during the PM Peak Hour, when over 80 percent of trips are outbound.
    - On a "per employee" basis, ITE trip generation rates indicate an average of approximately three(3) daily trips per employee – ranging from 2.77 daily trips per employee for R&D and 3.32 for General Office.
- **Residential land uses** typically generates between approximately six (6) and ten (10) daily trips per dwelling unit. The peaking pattern of residences is reversed, in comparison with employment-related uses, in that over 80 percent of AM Peak Hour trips are outbound from residences, while just 36 percent of PM Peak Hour trips are outbound.
- **Retail land uses** generate the highest rate of trips – within a wide range from 40 to 120 daily trips per 1,000 square feet.
- **Balancing peak-hour trips:** Given the different peaking patterns of residential and employment land uses – with residential trips primarily outbound AM and inbound PM, while employment-related land uses are primarily inbound AM and outbound PM – providing a mix of residential and employment-related land uses will help to balance two-way traffic volumes and avoid traffic congestion that can occur in areas where peak-traffic occurs in one direction.

Table D-5 Typical Trip Generation Rates

Land Use Type (Rate Source)	AM Peak Hour		PM Peak Hour		Daily Trips	
	Vehicle Trip Rate (1)	Inbound	Vehicle Trip Rate (1)	Inbound	Vehicle Trip Rate (1)	Inbound
Residential (trips per dwelling unit)						
Single-family residential	0.75	25%	1.01	64%	9.56	50%
Medium-density residential	0.44	19%	0.52	64%	5.81	50%
R&D / Office (trips per thousand square feet)						
Research & Development Park	1.22	88%	1.07	15%	8.01	50%
General Office	0.48	83%	0.46	17%	11.01	50%
Average	0.85	86%	0.77	16%	9.51	50%
R&D / Office (trips per employee)						
Research & Development Park					2.77	50%
General Office					3.32	50%
Average					*3.05*	*50%*
Retail (trips per thousand square feet)						
Supermarket	3.40	62%	9.48	51%	102.24	50%
Shopping Center	0.96	62%	2.74	48%	42.70	50%
Convenience Market	67.03	50%	52.41	51%	120.00	50%
Specialty Retail	N/A	N/A	2.71	44%	44.32	50%
Quality Restaurant	0.81	N/A	7.49	67%	89.95	50%
Community Shopping Center (S)	3.20	60%	8.00	50%	80.00	50%
Mixed Use Supermarket (S)	3.30	60%	9.90	50%	110.00	50%

Sources:
Institute of Transportation Engineers *Trip Generation* (9th Edition, 2012) except (S) indicates trip generation rate described in SANDAG Traffic Generation Rates (April 2002)

Net Change in Trip Generation under BCP

Daily Trip Generation

Table D-6 shows the estimated net change in trip generation under the BCP, in comparison with the GP, based on the trip generation rates described in Table D-5, and the land use comparison described in Tables D-1 through D-4 and Figure 4, an estimate of the net change in daily trip generation was prepared.

As shown:

- **Daily trip generation** would be approximately 17 percent lower under the BCP in comparison with the GP.
- The reduction in retail space is primarily responsible for the reduction, in that retail land uses generate a high rate of trips.

Table D-6 Net Daily Trip Generation Comparison - GP and BCP Land Uses

Daily Trip Generation Comparison			
		GP	**BCCP**
Residential	Single-family	33,667	32,699
	Multi-family	17,455	19,529
	Total home-based trips	51,123	52,228
R&D / Office	Commercial Office & Services (CO)	6,248	N/A
	Office R&D / Business Park (BP)	12,249	N/A
	Total R&D / Office trips	*18,497*	*28,851*
Retail	Thoroughfare Commercial (CT)	22,321	N/A
	Neighborhood Commercial (CN)	50,764	N/A
	Subtotal retail	73,085	34,853
	Retail pass-by trips (15%)	-10,963	-5,228
	Total retail trips	*62,122*	*29,625*
Total daily trips	***Subtotal trips***	131,742	110,704
	Adjustment for internal home-based trips	*-11,247*	*-10,446*
	Total daily trips	***120,495***	***100,258***
	Net change under BCP		***-20,237***
	Percent change under BCP		**-17%**

Peak Hour Trip Generation

Peak hour trip generation would be affected slightly differently in that work-commute trips are a greater share of peak-hour trips, particularly during the AM Peak Hour when retail trips are low.

- **AM Peak Hour:** BCP land uses anticipate a net increase of approximately 2,000 more jobs than under the General Plan – an increase of approximately 1.04 million square feet of R&D and Office Uses. This would potentially generate more trips during the AM Peak Hour under the BCP, since retail trip generation rates are lower during the AM Peak Hour.
- **PM Peak Hour**: during the PM Peak Hour, the share of work-trips to total trips is lower – generally most PM Peak Hour trips are "non-work" trips. The reduction in retail space will be most noticeable in reducing trips during the afternoon and evening hours.

lisa wise consulting, inc.

City of Merced | Bellevue Corridor Community Plan

FOUNDATION REPORT

AUGUST 2012

SARGENT TOWN PLANNING | NELSON NYGAARD | TPA | EPS

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1. INTRODUCTION

This Report provides an overview of the Bellevue Corridor Community Plan (BCCP) preparation process, reviews existing concepts and materials that will serve as a foundation for Plan development, and sets direction for the BCCP background studies and chapters.

The Merced community has participated in important planning initiatives over the past several years including the City's 2030 General Plan, UC Merced's Long Range Development Plan, and Merced County's University Community Plan. The outcomes of these planning initiatives will serve as an important basis upon which the BCCP will be developed. This report includes a brief overview of these plans and describes key concepts from each plan that will be incorporated into the BCCP (see Section 2).

The Report is organized into the following Sections:

Section 1. Introduction
Section 2. Objectives, Opportunities, and Constraints
Section 3. Plan Preparation Process Overview
Section 4. Overview of Existing Plans
Section 5. Next Steps
Appendix A. Background Study Outlines
Appendix B. Relevant General Plan Goals and Policies
Appendix C. BCCP Area Map

2. OBJECTIVES, OPPORTUNITIES, AND CONSTRAINTS

Plan Objectives

The BCCP will guide the physical development of approximately 1,920 acres of unincorporated land. The aim of the BCCP is to facilitate development that results in:

- A range of new neighborhoods, commercial centers and transition areas;
- Animated street activity;
- Coherent and pedestrian-friendly streetscapes;
- A rich and articulated public realm;
- Varied mobility options including vehicles, pedestrians, bicycles and transit
- A dynamic mix of uses; and
- A harmonious relationship between architecture, economy and the public realm.

To accomplish these objectives, the BCCP will establish specific standards for circulation and complete streets, transit priority projects, and land uses, site plans, and building design through a development code.

Circulation and complete streets strategies will aim to develop the corridor as a commercial focal point, connecting walkable neighborhoods through a network of well-designed streets that accommodate a range of transportation modes. The BCCP will incorporate a multi-modal approach that addresses roadway needs on a layered basis and will identify relevant examples of street types, streetscapes, and public space types that are complementary to land uses and appropriate for application in the Plan area.

The BCCP will identify and prioritize Transit Priority Projects (TPPs) and coordinate TPP locations with the pattern of new neighborhoods and activity nodes, as well as the anticipated pace of realizing development in these areas.

TPPs will be focused near existing or anticipated bus routes or stops including bus rapid transit and campus shuttles. The BCCP will include standards and land use policies specifically tailored to maximize TPP sites.

The vision for development site and building design in the BCCP area will be implemented through a development code. The code will utilize best practices and integrate concepts from the City's urban design guidelines and outcomes from the community outreach process. Code standards will be tailored for the BCCP's urban villages, corridor development and future research, and development park areas.

Opportunities

The BCCP area presents important opportunities for the City of Merced. The continued growth of UC Merced will provide an influx of people, ideas, and energy. The BCCP should aim to capitalize on this growth and ensure new development meets the needs and desires of new and existing residents. Potential opportunities include the following:

- **Growing University-oriented population.** UC Merced is expected to grow to approximately 25,000 students and over 6,500 faculty and staff members by 2035. As the population grows, there will be an expanding market for housing, goods, and services.
- **Future Research and Development Park Sites.** Anticipating and preparing for market demands caused by a growing university, sites for future job generating research, and development parks can be set aside today for development in the future.
- **Limited existing development.** There is little existing development located within the Plan area. Large, undeveloped tracts of land present a wide variety of opportunities for well-designed development tailored specifically to the needs of the growing University-oriented population.
- **Home for Entrepreneurs.** The BCCP can help foster a living and working environment to attract a new generation of entrepreneurs, leading to innovations, technologies, and expansion of local job-generators.
- **Alternative transportation.** The BCCP should identify and implement circulation and land use standards that encourage multi-modal transportation including walking, biking, riding transit, and driving.
- **Leverage new investment.** The expanding University community has and will continue to spark associated investment in Merced. The BCCP should identify opportunities to leverage new investment in the University-area to improve citywide economic vitality.
- **Low-impact development.** Well-planned growth in the BCCP area can ensure that development minimizes impacts to natural resources, air quality, and water quality. The BCCP should identify and incorporate concepts for development patterns and solutions that conserve and enhance resources from which a community prospers.
- **Community character.** As noted, there is little existing development within the BCCP area, thus the BCCP presents an important opportunity to elaborate on General Plan vision concepts for developing a unique community character. The BCCP should encourage memorable public spaces and distinctive community nodes that facilitate positive interaction and idea sharing and build upon the concepts developed through the UC Merced Long Range Development Plan.
- **Existing Rural Residential Communities.** Though primarily located outside the Plan Area, existing "ranchette neighborhoods" provide a semi-rural lifestyle defined by open space and agricultural uses. The BCCP provides an opportunity to maintain and strengthen the character of these neighborhoods; these neighborhoods can provide development themes for some areas of the BCCP.

Challenges / Constraints

The area presents a number of challenges and constraints:

- **Distance between UC Merced and Downtown.** Because the UC campus is located approximately five miles outside of the downtown core, new development in the Plan area must serve to connect the two activity areas through appropriate uses, a thoughtful street grid, and transit.
- **Development phasing.** The scale of the Plan area and timing of the UC campus buildout will make phasing an important consideration in Plan implementation. The pattern and timeframe in which the area develops will impact transit opportunities, development feasibility, and interim community character.
- **Natural resource and habitat disruption.** Portions of the Plan area are home to sensitive natural resources such as vernal pools that must be considered in land use plans.
- **Affordable housing.** Housing within the Plan area should include a range of housing types offered at prices affordable to households at a variety of income levels to ensure that appropriate housing options are available to new and existing residents including students, working professionals, families, and seniors. BCCP policies should reflect housing goals and policies established in the General Plan Land Use and Housing Elements.
- **Multiple interests.** BCCP standards and policies must address the needs and concerns of individual property owners while ensuring each unique development contributes to a unified whole.
- **Multiple City focus points.** The City has important existing resources including the charming downtown area and several historic neighborhoods. The BCCP must ensure that development within the BCCP complements, rather than competes with these existing community focal points.
- **Campus Parkway Regional Traffic (Loop Road):** Bellevue Road is part of Merced's loop road that carries regional Highway 99 traffic to and from north Merced and UC Merced. The BCCP street design must address how to minimize the impact of regional traffic on efforts to: 1) provide pedestrian, bicycle and transit mobility options in the Bellevue Corridor Urban Villages., and 2) develop high-quality living environments on both sides and fronting Bellevue Road.

3. PLAN PREPARATION PROCESS OVERVIEW

Community Outreach

Community outreach will play a key role in the formation of the BCCP. The outreach program consists of an open house community kick-off workshop, interviews with community stakeholders, a multi-day design workshops, meetings with citizen and technical advisory groups, and meetings with the Planning Commission.

Stakeholder Interviews. City Staff and members of the Consultant Team met with 10 stakeholders representing a variety of interests in the BCCP area on May 2, 2012. The interviews allowed the Consultant Team to gather background information regarding land ownership patterns, development interests, and the desires and concerns of these stakeholders.

Community Kick-off Meeting and Stakeholder Interviews. The City hosted a community-based information and orientation open house on May 4, 2012, attended by approximately 100 individuals, to inform the public about the project's intent and purpose, as well as future opportunities for providing input.

Design Workshops. Public workshops will be a key milestone in the community engagement process. The community will be able to participate in the planning and design process in various formats, including formal opening and closing presentations, informal process presentations (pin-ups) held most evenings,

topic-specific brown bag lunches, and casual one-on-one chats with City Staff and Consultant Team members during the open studio hours.

The design workshops are not only about engaging and communicating with the public, but also about creating detailed design solutions for the Plan area with specific direction for future planning and coding efforts. The Consultant Team will render numerous boards of three-dimensional drawings to clearly illustrate the Plan's intent. In addition to tying the public into the process, it will be critical to engage City Staff, other agencies and organizations, the Planning Commission, and the City Council as much as possible throughout the workshop events. At the conclusion of the workshops, a formal presentation will be made to the community describing a clear planning direction for the Plan area.

The key objectives of the public workshop process are to:

- Illustrate the potential development of the Plan area and Urban Villages including appropriate densities, mix of uses, right-of-way designs, and cohesiveness of the public and private realms;
- Ensure that development reinforces the General Plan goals and objectives;
- Develop BCCP area land uses and start to shape the expectations for zoning;
- Confirm the community vision for the "complete street" components of the street design effort;
- Interact with transit agency representatives to refine the "Transit Priority Project"; and

Citizen and Technical Advisory Group Meetings. The City will host regular meetings with the Citizen and Technical Advisory Committees. The meetings will be organized by City Staff, but the Consultant Team will be responsible for summarizing comments and incorporating feedback into the BCCP.

Background Study Preparation

The Consultant Team will prepare background studies analyzing existing conditions and Plan potential in the areas of market and economic conditions, complete streets, development code, rights-of-way and semi-public spaces, and transit priority projects. The background studies will be compiled in a Findings Report, which will serve as the foundation for the BCCP. Refer to Appendix A for tentative outlines of each background study.

Economic Analysis. This study will evaluate the long-term trends and market potential affecting the viability of commercial and residential real estate product types in the Plan area; provide professional guidance to aid planning team in developing a land use program, including consideration of a) research and development park; b) office; c) retail; and d) housing types; link core UCM competencies with potential market; and assess lands along Bellevue Road and Lake Road for market potential of future research and development parks.

Complete Streets. City Staff will prepare a memo describing research and examples of "complete streets" concepts. The memo will include preliminary recommendations for internal circulation within the BCCP areas.

Development Code. This study will identify and examine relevant examples of approaches and details for coding vacant land and existing development. The study will focus on three key needs: 1) gleaning tips and helpful advice from staff about expectations, issues to address, details and procedures to include or avoid in the BCCP development code 2) identifying how the code will implement Chapter 6 of the 2030 General Plan (Urban Village Concept and Design Guidelines) for the Bellevue Corridor and 3) identifying a preliminary code structure that provides a kit of parts that can respond to the emerging Bellevue Corridor Plan.

Right-of-Way/Semi-Public Spaces. This study will provide initial direction for street design options and strategies, describe existing conditions, and document assumptions and projections for future travel

volume. The study will outline appropriate circulation planning principals that build on the General Plan and are intended to accommodate anticipated land uses and provide efficient multi-modal access.

Transit Priority Project. This study will examine Transit Priority Project (TPP) needs, potential locations, and design solutions. The primary focus will be to define TPPs in keeping with SB 375 and to describe anticipated transit needs for use as a key driver in establishing the land use and design elements of the Plan.

These background studies will be consolidated and refined as part of a **Findings Report**.

Plan Preparation

The Consultant Team will build upon findings from the background studies and public outreach activities to prepare a development code framework, transit priority project implementation actions, right-of-way design templates and graphics, and quantified indicator outcomes. City Staff will prepare a BCCP land use map and greenhouse gas emission reduction policies, programs and actions, and will consolidate work from City Staff and the Consultant Team into a complete BCCP draft. Following adoption of the BCCP from the Planning Commission and City Council, the Consultant Team will prepare a development code to implement the BCCP.

Expected Outcomes

Background research, analysis of existing conditions, and feedback from the public outreach process will result in a Final BCCP that meets the following expected outcomes:

- A thorough background analysis and documentation of existing conditions;
- A Plan that creates compatible land uses and infrastructure with existing semi-rural neighborhoods
- A Plan that capitalizes on the opportunities provided by UC Merced including: designation of future research and development parks, and establishment of an "innovation hub."
- Policies and strategies directing development in keeping with the General Plan;
- Land use and circulation plans that accommodate an appropriate mix of uses, and establish a foundation for walkable, enjoyable community nodes;
- A development code that provides clear, predictable standards for development in keeping with the type, style, and character identified in the vision and General Plan, to help create a vibrant and attractive community; and
- An infrastructure and phasing plan that describes how growth may occur within the Plan area.

4. OVERVIEW OF EXISTING PLANS

This Section provides a preliminary overview of existing plan documents related to the BCCP area, as well as the City's overall goals for future development including the Merced Vision 2030 General Plan, the UC Merced Long Range Development Plan and Physical Design Framework, Merced County University Community Plan, and the anticipated Yosemite Lake Estates Community Plan. Additional analysis of existing plans and studies will be included in relevant background studies.

Merced Vision 2030 General Plan

The City completed a comprehensive General Plan update in January 2012. The update process included extensive research, documentation, and dialogue with the community. The 2030 General Plan includes nine elements: Urban Expansion; Land Use; Transportation and Circulation; Public Services and Facilities; Urban Design; Open Space, Conservation, and Recreation; Sustainability; Noise, and Safety. Refer to Appendix B for a table of General Plan goals and policies that are relevant to the BCCP.

Land Use Designations

The General Plan provides a basic land use concept for the BCCP area that includes a mix of residential, commercial, and public uses. Table 4.1 provides an overview of the land use designations in the BCCP area. These land use designations and corresponding regulations will serve as a basis for BCCP area zones, and the BCCP will recommend revisions to the General Plan land use map if needed to achieve the desired vision.

Table 4.1. General Plan Land Use Designations

Land Use Designation	Intended Uses	Density
Rural Residential (RR)	Residential: single-family	1 – 3 units per acre
Low Density Residential (LD)	Residential: single-family detached, condominium, and zero-lot line	2 – 6 units per acre
Low-Medium Density Residential (LMD)	Residential: single-family detached, duplex, triplex, fourplex, condominium, zero-lot-line	6.1 – 12 units per acre
High-Medium Density Residential (HMD)	Residential: multifamily, apartment, condominium, triplex, fourplex	12.1 – 24 units per acre
High Density Residential (HD)	Residential: multifamily	24.1 – 36 units per acre
Commercial Office (CO)	Commercial: primarily small-scale office uses as well as general retail and service commercial	0.50 FAR
Neighborhood Commercial (CN)	Commercial: retail, eating and drinking, commercial recreation, auto services, etc.	Average 0.35 FAR
Bellevue Corridor Mixed Use	A mixture of LMD, HMD, HD, CO and CN.	Varies
Regional/Community Commercial (RC)	Retail (regional department stores)	0.35 FAR
Thoroughfare Commercial (CT)	Commercial: auto-oriented commerce, large recreational facilities, some heavy commercial, lodging and hospitality, automobile sales and services	0.35 FAR
Business Park (BP)	Commercial and industrial: heavy commercial, office, research and development, light manufacturing, warehousing, information-based and service-based activities	0.40 FAR
Open Space – Park/Recreation Facility (OS-PK)	Recreation: public parks, golf courses, greens, commons, playgrounds, and other public and private open spaces	0.10 FAR
Public/Government (P/G)	Public facilities: schools, fire stations, police stations, libraries, courthouses, public offices	N/A

UC Merced Development Plans

Existing and planned development at UC Merced is a key driver of development potential in the Plan area. UC Merced has completed key plans for the campus: the Long Range Development Plan (2009) and the Physical Design Framework (2010). Refer to Appendix C for a map of the UC Merced campus area in relation to the BCCP and other nearby planning areas.

Long Range Development Plan

The UC Merced 2009 Long Range Development Plan (LRDP) identifies academic themes, land uses, circulation plans, and environmental strategies for UC Merced's 815-acre campus. The LRDP describes existing conditions, regional context, and academic strategies, as well as land use, environmental, and physical design concepts.

The LDRP provides enrollment projections from the 2007 – 2008 academic year through full development. At build-out the campus is expected to have a student population of 25,000, staff and faculty population of over 6,500 and other daily population of over 600. Approximately 12,500 of the students will be housed on campus. By 2020, the student population will exceed 11,000 and the faculty and staff population will exceed 3,200.

The LDRP organizes UC Merced into four academic campus districts (North Campus, Central Campus West, Central Campus East, and Gateway District) and four neighborhoods (Lake View, North Neighborhood, Sierra View, and Valley View). The campus features a network of irrigation canals and two topographical land depressions or "bowls" which will serve as open space as well as stormwater retention basins. The districts and neighborhoods are generally organized around the two bowls.

Campus development is described in block types that illustrate potential building types, scale, site coverage, and density within each district and neighborhood. Refer to Table 4.2 for a summary of block types. Anticipated building heights range from 50 to 100 feet.

Table 4.2. Campus Block Types

Block Type	Block Size	Land Use	Net Density	Gross Density*
Academic Core				
AC-1: Typical academic block	3 acres	Academic buildings	0.96 FAR	0.72 FAR
AC-2: Academic lab block	3 acres	Research buildings	0.96 FAR	0.72 FAR
AC-3: Main Street block	3 acres (1.5 academic, 1.5 residential)	Academic buildings, student services, student apartments	Academic: 1.5 FAR Residential: 60 units/acre	Academic: 1.12 FAR Residential: 45 units/acre
Gateway District				
G-1: Industrial-research block	3 acres	Industrial research buildings	0.45 FAR	0.34 FAR
G-2: Industrial-research block	3 acres	Industrial research buildings	0.96 FAR	0.72 FAR
Student Neighborhoods				
SN-1: Townhouse and stacked flats	4 acres	Residential apartments and open space	27 units/acre	20 units/acre
SN-2: Walk-up apartments	3 acres	Residential apartments, open space, and student services	35 units/acre	27 units/acre
SN-3: Residence hall buildings	4 acres	Residential apartments and open space	80 units/acre	60 units/acre

* Assumes 75% efficiency for streets.

The LDRP describes a circulation system that includes a hierarchy of streets, malls, and trails on a tree-lined, pedestrian-oriented grid. Parking will ultimately be supplied at a rate of 0.62 spaces per student, however, a higher ratio is anticipated until the campus and transit systems mature. The campus circulation system will be further highlighted in the complete streets, right-of-way, and transit priority project background studies.

Physical Design Framework

The UC Merced Physical Design Framework outlines principles and standards to advise campus-level project approvals. Framework objectives are structured around interconnected environmental design, community, and planning principles as well as the UC Merced administrative and committee structure for the planning process.

The **environmental design** principles are to:

1. Create a teaching landscape.
2. Connect site design to its surroundings
3. Ensure the availability of modal choices.
4. Design visible infrastructure.
5. Employ distinctive building design.

The **community design** principles are to:

1. Locate programs to foster interaction and engagement of the campus community.
2. Design places within the campus to create active centers or points of connection for people.
3. Design pathways to dynamically connect people, places and programs.
4. Systems for movement, services and access integrate aesthetic and functional designs.
5. Shape the built form of the campus through typology and scale standards that allow for distinctive architecture, while creating a coherent campus fabric.

The **planning** principles are to:

1. Facilitate interdisciplinary interaction among disciplines in the academic core.
2. Develop a pedestrian culture to create vitality and activity that makes on-campus living desirable.
3. Organize around shared open spaces such as the North and South Bowls.
4. Locate student services conveniently to form a valuable focus for on-campus residential neighborhoods.
5. Maximize the return on investments in infrastructure through strategic development and attention to aesthetics.

The Framework provides guidance for architectural elements, color and materials, and landscaping. Additionally, it describes the campus design approval process and the role of various campus committees in development review and decision-making.

Merced County University Community Plan

The University Community Plan (UCP) provides direction for the development of approximately 2,133 acres of mostly agricultural land located generally to the south of the UC Merced campus and east of the BCCP area. Refer to Appendix C for a map of the University Community Plan area in relation to nearby planning areas.

The community is organized around a high-density town center having a variety of uses, which connects the University Community to the UC Merced campus. Residential "villages" are centered around "village centers" of retail, office and public uses/spaces. As shown in Table 4.3, the UCP anticipates 11,616 residential units and over two million square feet of commercial space at build-out.

Table 4.3. University Community Plan Build-Out		
Land Use	**Build-Out Estimate**	**Density/Intensity**
Residential	**11,616**	**Average range of 8 to 32 units/acre**
Single-Family	6,968	Average 4.7 units/acre
Multifamily	4,648	Average 24 units/acre
Commercial	**2,023,000**	**General Commercial FAR: 0.2 to 0.35** **Mixed-Use: 0.2 to 1.5**
Retail	716,000	-
Office/Research and Development	1,307,000	-

The UCP calls for several roadway improvements to support the planned development including the addition of the Campus Parkway, linking Lake Road to Highway 140 and Highway 99, road widening on Highway 59 and Highway 140, and improved Highway 99 interchanges. The road network within the UCP area will be a connective grid pattern, designed to disperse traffic throughout the community and provide multiple connections to most destinations. The UCP emphasizes connectivity, particularly through pedestrian and bicycle paths, and transit routes to the UC Merced campus.

The UCP area features diverse natural wetlands and grasslands. To protect these environmental resources, the UCP calls for environmentally sensitive project siting and measures such as buffer zones, seasonal construction prohibitions in sensitive areas, barriers, activity restrictions, and signage, as well as integrated open space corridors to allow wildlife movement throughout the community.

The UCP area is held by several property owners who will sell or transfer their land to real estate developers. To initiate this, the property owners will need to prepare a financing strategy and economic development program. Developers will need to prepare separate specific plans for the town center and residential villages. The specific plans will include environmental analyses, physical development plans and regulations, design guidelines, housing programs, capital improvement plans, and phasing plans.

Yosemite Lake Estates Community Plan (Future)

Yosemite Lake Estates is a 655-acre planned development area located to the north of the BCCP area in Merced County. Refer to Appendix C for a map of the Yosemite Lake Estates Community Plan area in relation to the BCCP and other nearby planning areas. The area is included within the City's Specific Urban Development Plan (SUDP)/Sphere of Influence (SOI) and it is anticipated that it will be developed with residential and commercial uses. According to the Merced 2030 General Plan, Yosemite Lake Estates could accommodate approximately 1,262 dwelling units and 187,340 square feet of commercial development. The process to prepare a Community Specific Plan (required under the County General Plan) is anticipated to begin in late 2012.

APPENDIX A. BACKGROUND STUDY OUTLINES

Economic Analysis

A. Existing conditions
    1. Demographics
    2. Real estate market supply and demand
B. Market potential
    1. UC Merced
        1. Impacts
        2. Opportunities
    2. Citywide trends (market potential)
    3. Catalytic sites (e.g. Bellevue Road & Gardner Road)
    4. UC Merced Spin-Off Development catalysts/incentives/features of Innovation Hub
        a. Activities
        b. Programs
        c. Partners
        d. Infrastructure
C. Professional guidance to aid planning team in developing a land use program, including consideration of a) research and development park; b) office; c) retail; and d) housing types.
D. Link core UCM competencies with potential market

Development Code

A. Understanding Merced's Expectations and Preferences for Development Standards on the Bellevue Corridor
    1. General expectations and preferences for development standards
    2. Ideas about how the code should function on a daily basis: an understanding of staff's needs from a daily functional perspective
B. Translating Merced's Urban Design Guidelines (Chapter 6) into development code standards for the Bellevue Corridor
    1. Urban Village and its essential components and policy direction
        a. 'Inner Villages'; 'Core Commercial Areas'; 'Village Core Residential Areas'
        b. 'Outer Village Areas'; 'Open Space, Parks and Plazas'
    2. 'Urban Design Goals, Policies and Actions'
    3. 'Street Design'
    4. 'Commercial Area Appearance'; 'Residential Area Appearance'
    5. 'Overall Community Appearance'
C. Development Code for the Bellevue Corridor
    1. Minimum Components
        a. Vision
        b. Administration and Procedures
        c. Zoning Map and Zoning Districts
        d. Standards for all Zoning Districts
        e. Standards Specific to Zoning Districts (Intent of Zone, Standards for Building Placement, Height, Parking Placement, Encroachments and Adjacencies - including Land Use Standards)
        f. Performance Standards for Specific Land Uses

i. Agriculturally-related activity
ii. Lodging: B&B's, Hotels, Motels
iii. Civic Buildings
iv. Eating Establishments
v. Sidewalk Dining

g. Block and Street Standards (including Streetscape Standards)
h. Building and Massing Standards
i. Frontage Standards
j. Signage Standards
k. Definitions (using existing municipal code definitions and replacing/adding as appropriate)

D. Optional Components (not in current scope of work). These items will be discussed in the Background Study for informational purposes and consideration in future work efforts)
1. Solar and Wind Access and Energy Production Standards
2. Architectural Style Standards
3. Public Art Standards

Right-of-Way / Semi-Public Spaces

A. Circulation overview
1. Opportunities
2. Constraints

B. Street network design principles
1. Current and anticipated needs
2. Transportation modes
a. Automobile
b. Pedestrian
c. Bicycle
d. Transit
i. Bus
ii. Shuttle
iii. Other
iv. Automobile

C. Conceptual designs (Cross-sections & plan views of street and zone between curb and face of building)
1. Overview
2. Bellevue Parkway planning principles
a. Three alternative designs for Bellevue Corridor
3. Arterial, collector, and local street typologies
a. Proposed right-of-way widths
b. Preferred cross-sectional dimensions
c. Other layout features
4. Considerations

D. Anticipated arterial street level of service
1. Volume for each travel mode and road design
2. Volume adjustments based on anticipated land uses and designs
3. Forecasted Daily LOS (based on volume-to-capacity ratios) data sheets for the three alternative street designs

Transit Priority Project

A. Overview of SB 375 and definition of Transit Priority Project (TPP)
B. Potential transit service options
    1. Short term
    2. Long term
C. Potential TPP locations
    1. Future site criteria
    2. Potential locations within the plan area
D. Potential TPP service type analysis (order of magnitude)
    1. Types
        a. Bus rapid transit
        b. Conventional bus
        c. Light-rail
    2. Potential ridership
    3. Transit agency capacity/needs
E. TPP design concepts/plan view and cross-sections, consistent with SB 375 definition
F. General Cost analysis
    1. Construction and operating cost estimates/comparison
    2. Phasing
G. TPP recommendation
    1. Service type
    2. Relationship to land use/transportation goals

APPENDIX B. RELEVANT GENERAL PLAN GOALS AND POLICIES

Urban Expansion	
Goal Area UE-1: Urban Expansion	
• A compact urban form • Efficient urban expansion	
Policy UE 1.2	Foster compact and efficient development patterns to maintain a compact urban form.
Policy UE 1.3	Control the annexation, timing, density, and location of new land uses within the City's urban expansion boundaries.
Policy UE 1.4	Continue joint planning efforts on the UC Merced and University Community plans.
Land Use	
Goal Area L-1: Residential & Neighborhood Development	
• Housing opportunities in balance with jobs created in the Merced Urban Area • A wide range of residential densities and housing types in the City • Preservation and enhancement of existing neighborhoods • Quality residential environments • Mixed-use, transit and pedestrian-friendly residential environments	
Policy L-1.1	Promote balanced development which provides jobs, services and housing.
Policy L-1.2	Encourage a diversity of building types, ownership, prices, designs, and residential areas throughout the City.
Policy L-1.3	Encourage a diversity of lot sizes in residential subdivisions.
Policy L-1.5	Protect existing neighborhoods from incompatible developments.
Policy L-1.6	Continue to pursue quality single-family and higher density residential development.
Policy L-1.7	Encourage the location of multifamily developments on sites with good access to transportation, shopping, employment centers, and services.
Policy L-1.8	Create liveable and identifiable residential neighborhoods.
Policy L-1.9	Ensure connectivity between existing and planned urban areas.
Goal Area L-2: Economic & Business Development	
• Increased employment opportunities for the citizens of Merced • A diverse and balanced Merced economy • Preservation and expansion of the City's economic base • High quality industrial areas, including technology parks • More high-quality research and development parks • Ready access to commercial centers and services throughout the City	
Policy L-2.1	Encourage further development of appropriate commercial and industrial uses throughout the City.
Policy L-2.2	Locate new or expanded industrial, research and development, technology, and business parks in appropriate areas.
Policy L-2.3	Promote the retention and expansion of existing industrial and commercial businesses.
Policy L-2.4	Provide a range of services adjacent to and within industrial areas to reduce auto trips.

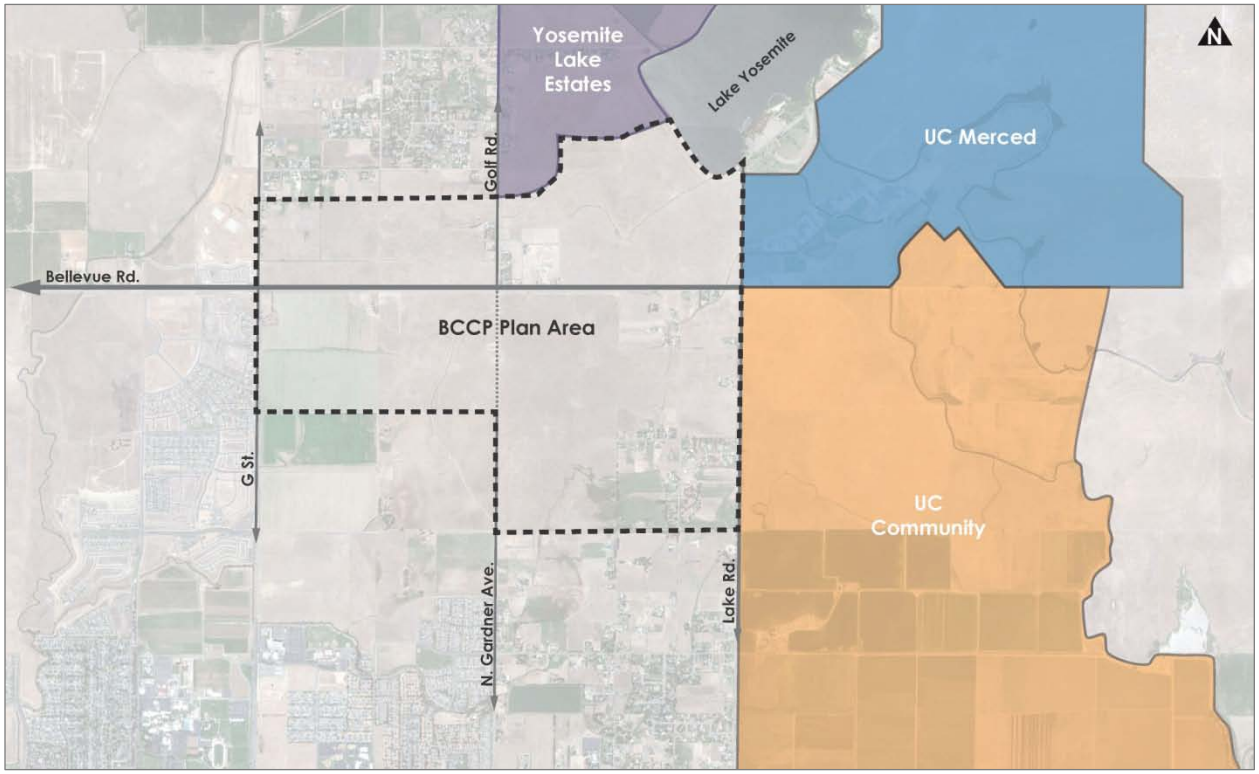
Policy L-2.5	Maintain attractive industrial areas and business parks.
Policy L-2.6	Provide neighborhood commercial centers in proportion to residential development in the City.
Policy L-2.7	Locate and design new commercial development to provide good access from adjacent neighborhoods and reduce congestion on major streets.
Policy L-2.9	Identify locations and develop standards for campus-type research and development parks.
Goal Area L-3: Urban Growth & Design	
• Living environments which encourage people to use a variety of transportation alternatives • A compact urban village design for new growth areas • Self-sustaining, mixed-use, pedestrian-friendly neighborhoods • Transit-oriented development adjacent to the high speed rail station	
Policy L-3.1	Create land use patterns that will encourage people to walk, bicycle, or use public transit for an increased number of their daily trips.
Policy L-3.2	Encourage infill development and a compact form.
Policy L-3.3	Promote site designs that encourage walking, cycling, and transit use.
Policy L-3.7	Implement policies and principles to conform to the intent of the San Joaquin Valley Regional Blueprint.
Transportation and Circulation	
Goal Area T-1: Streets and Roads	
• An integrated road system that is safe and efficient for motorized and non-motorized uses • A circulation system that is accessible, convenient, and flexible • A circulation system that minimizes adverse impacts on the community • A comprehensive system of "complete streets" which address all modes of transportation	
Policy T-1.1	Design streets consistent with circulation function, affected land uses, and all modes of transportation.
Policy T-1.2	Coordinate circulation and transportation planning with pertinent regional, State and Federal agencies.
Policy T-1.3	Design major roads to maximize efficiency and accessibility.
Policy T-1.4	Promote traffic safety for all modes of transportation.
Policy T-1.5	Minimize unnecessary travel demand on major streets and promote energy conservation.
Policy T-1.6	Minimize adverse impacts on the environment from existing and proposed road systems.
Policy T-1.7	Minimize street system impacts on residential neighborhoods and other sensitive land uses.
Policy T-1.8	Use a minimum peak hour Level of Service (LOS) "D" as a design objective for all new streets in new growth areas and for most existing streets except under special circumstances.
Goal Area T-2: Bicycles, Pedestrians, and Public Transit	
• An efficient and comprehensive public transit system • A comprehensive system of safe and convenient bicycle routes (within the community and throughout the urban area) • A comprehensive system of safe and convenient pedestrian facilities • A comprehensive system of "complete streets" addressing all modes of transportation	
Policy T-2.1	Provide for and maintain a major transitway along "M" Street and possibly along the Bellevue Road/Merced-Atwater Expressway and Campus Parkway corridors.
Policy T-2.2	Support and enhance the use of public transit.
Policy T-2.3	Support a safe and effective public transit system.
Policy T-2.4	Encourage the use of bicycles.

Policy T-2.5	Provide convenient bicycle support facilities to encourage bicycle use.
Policy T-2.6	Maintain and expand the community's existing bicycle circulation system.
Policy T-2.7	Maintain a pedestrian-friendly environment.
Policy T-2.8	Improve planning for pedestrians.
Policy T-2.9	Ensure that new development provides the facilities and programs that improve the effectiveness of Transportation Control Measures and Congestion Management Programs.
Goal Area T-3: Air and Rail Services	
• Air and rail systems that provide safe and convenient service to the community	
Policy T-3.5	Support enhanced railroad passenger service and high speed rail service for Merced.
Public Services and Facilities	
Goal Area P-1: Public Facilities and Services	
• New development which includes a full complement of infrastructure and municipal public facilities • Efficient and cost-effective public service delivery	
Policy P-1.1	Provide adequate public infrastructure and municipal services to meet the needs of future development.
Policy P-1.3	Require new development to provide or pay for its fair share of public facility and infrastructure improvements.
Goal Area P-4: Wastewater	
• An adequate wastewater collection, treatment and disposal system in Merced	
Policy P-4.2	Consider the use of reclaimed water to reduce non-potable water demands whenever practical.
Goal Area P-5: Storm Drainage and Flood Control	
• An adequate storm drainage collection and disposal system in Merced	
Policy P-5.1	Provide effective storm drainage facilities for future development.
Policy P-5.2	Integrate drainage facilities with bike paths, sidewalks, recreation facilities, agricultural activities, groundwater recharge, and landscaping.
Goal Area P-7: Schools	
• Adequate school facilities for all students in the Merced urban area • Excellent cooperative relationships between the City, the school districts, and the development community	
Policy P-7.1	Cooperate with Merced area school districts to provide elementary, intermediate, and high school sites that are centrally located to the populations they serve and adequate to serve community growth.
Goal Area P-8: Government, Health, Library, and Cultural Facilities	
• Support for cultural and community services that improve and maintain the quality of life for the residents of Merced	
Policy P-8.1	The City will support the cultural and health related needs of the community by incorporating such facilities and services in development and redevelopment proposals.
Urban Design	
Goal Area UD-1: Transit Ready Development or Urban Villages	
• An integrated urban form • Transit-ready community design • Pedestrian -and bicycle- compatible neighborhoods	
Policy UD-1.1	Apply transit-ready development or urban village design principles to new development in the City's new growth areas.
Policy UD-1.2	Distribute and design urban villages to promote convenient vehicular, pedestrian, and transit

	access.
Policy UD-1.3	Promote and facilitate core commercial design principles in village commercial areas.
Policy UD-1.4	Promote and facilitate urban village residential area design principles.
Policy UD-1.5	Design and develop public and quasi-public buildings and uses utilizing transit-ready development or urban village principles.
Goal Area UD-2: Overall Community Appearance	
• A unique community image • Attractive neighborhoods and districts • Attractive and memorable public streets	
Policy UD-2.2	Maintain and enhance the unique community appearance of Merced.
Open Space, Conservation, and Recreation	
Goal Area OS-1: Open Space for the Preservation of Natural Resources	
• Maintenance of Merced's biological resources • A high-quality, expanding urban forest • Preservation of scenic corridors and resources	
Policy OS-1.2	Preserve and enhance creeks in their natural state throughout the planning area.
Policy OS-1.3	Promote the protection and enhancement of designated scenic routes.
Policy OS-1.4	Improve and expand the City's urban forest.
Goal Area OS-2: Open Space for the Managed Production of Resources	
• Protection of regional agricultural resources	
Policy OS-2.2	Relieve pressures on converting areas containing large concentrations of "prime" agricultural soils to urban uses by providing adequate urban development land within the Merced City SUDP.
Goal Area OS-3: Open Space for Outdoor Recreation	
• High-quality recreational open space • Adequate public recreation facilities • Comprehensive urban trail and bike path system	
Policy OS-3.1	Provide high-quality park and open space facilities to serve the needs of a growing population.
Policy OS-3.2	Maintain and expand the City's bikeway and trail system.
Policy OS-3.4	Develop a diverse and integrated system of park facilities throughout Merced.
Sustainable Development	
Goal Area SD-1: Air Quality and Climate Change	
• Effective and efficient transportation infrastructure • Reduction in the generation of Greenhouse Gases (GHG) from new development	
Policy SD-1.3	Integrate land use planning, transportation planning, and air quality planning for the most efficient use of public resources and for a healthier environment.
Goal Area SD-4: Healthy Communities	
• A healthy environment for all residents	
Policy SD-4.1	Create a healthy built environment.
Policy SD-4.2	Encourage increased physical activity of residents and healthier food choices.

Noise	
Goal Area N-1: Noise	
• To protect the economic base of the City by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses. • To encourage the application of state-of-the-art land use planning methodologies in areas of potential noise conflicts.	
Policy N-1.5	Coordinate planning efforts so that noise-sensitive land uses are not located near major noise sources.
Policy N-1.6	Mitigate all significant noise impacts as a condition of project approval for sensitive land uses.
Safety	
Goal Area S-2: Seismic Safety	
• Reasonable safety for City residents from the hazards of earthquake and other geologic activity	
Policy S-1.3	Restrict urban development in all areas with potential ground failure characteristics.

APPENDIX C. BCCP AREA MAP



Technical Appendix F, "Plan Development and Community Participation"

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F.1 Public Outreach Strategy

The City of Merced designed a public outreach strategy to successfully capture agency and community input. Agency participation allows impacted organizations to provide expertise and insight into the planning process. Integrating citizen participation during the process resulted in increased public awareness and a reflection of community issues, concerns, and new perspectives on future development opportunities.

Public Outreach Objectives:

- Identify the *participants* in the planning process, who include: the Planning Leadership Team, the Technical Advisory Committee and the Citizens Advisory Committee, and the general public, including stakeholders;
- Satisfy the City's Community Plan Guidelines to for "public outreach" in development of the plan;
- Utilize a variety of *public outreach methods*, for example, a questionnaire to gauge the public's support for consultant ideas and solutions about future development in the plan area;
- Provide multiple *public outreach events* to collect meaningful input into each aspect of the plan; and,
- Attempt to reach a diverse mix of the public and as many citizens in the planning area as possible.

F.2 Plan Development Process

This section provides an account of how the Bellevue Community Plan (BCP) was developed, and serves as a permanent record that explains how decisions were reached, and demonstrates that it was developed with stakeholder input in a methodical and reasonable way.

F.2.1 Project Initiation

The City was awarded $251,000 from the Strategic Growth Council of the State of California to prepare the Bellevue Corridor Community Plan over the course of 2 years, beginning November 2011. The planning effort was led by the City's Planning Division. In February 2012, the professional consulting firm Lisa Wise Consulting was hired to assist City staff in developing the Plan. In July 2012, the City Council appointed the project ad-hoc Citizen Advisory Committee (CAC), consisting of 21 members.

F.2.2 Planning Process

The plan was developed in five general phases. The first phase, ***Plan Organization***, consists of mobilizing the community and getting started with the Planning Process. The second phase, ***Project Studies & Findings Report*** describes the approach and content of various studies to be undertaken by the Planning Leadership Team***.*** The third phase, ***Public Workshops,*** is an opportunity for the public to meet with the Planning Leadership Team to learn about and offer public input concerning the studies and plan options. The fourth phase, ***Draft and Adopt Community Plan***, synthesizes the study findings with committee and public input comments to formulate an administrative draft of the plan.

The following "Phase" and "Step" descriptions provide a detailed narrative of the overall project progression. Supplementing this Planning Process Narrative are: 1) committee meeting minutes included at the end of this Appendix; and 2) Table F-1 listing "Public Outreach Events."

Phase 1: Plan Organization

1. Project Kick-off Meeting: On March 13, 2012, City Staff and the Consultant Team held a kick-off meeting to: 1) review and adjust the Scope of Work, if needed; 2) review and discuss the Plan preparation process; 3) clarify roles and expectations; 4) establish communication portals for information sharing and future discussions; 5) discuss billing logistics; 6) tour the plan area; and 7) share background information and materials.

2. Begin Process to Assemble the Citizen Advisory Committee: In March 2012, City Staff initiated the formal process to assemble the Citizen Advisory Committee, including the preparation of applications, written committee duties, public noticing and associated City Council actions. At this time, Staff also formed the Project's Technical Advisory Committee.

3. Project Management Plan: City Staff, its partners MCAG and UCM, and the consultants crafted a project management plan as a tool to facilitate a smooth operation of project-related events and activities.

4. Community Project Orientation & Stakeholders Meetings: O On May 2, 2012, City Staff and the Project consultant met with property owners with development interests within the BCP planning area. On May 4, 2012, City Staff hosted a community-based information and orientation open house at the Merced Civic Center about the planning effort and future public workshops. Staff presented the vision for the Plan and provided opportunities for adjustments based on public feedback. Invited project stakeholders included government agencies, community-based organizations, groups and individuals representing commercial interests, and organizations representing other interests such as public health and housing.

5. Outreach to Underrepresented Groups: In June 2012, the Planning Staff offered to meet with underrepresented community groups to present the project and to receive comments to fold into the planning process where appropriate. These underrepresented groups were encouraged to participate in the upcoming workshops and to consider a seat on the project committee.

6. Citizen Advisory Committee Established: On July 16, 2012, the Merced City Council appointed 21 members to the ad-hoc citizen advisory committee for the Bellevue Community Plan.

Phase 2: Project Studies/Findings Report

1. Foundation Report: In August 2012, the Consultant Team prepared the project *Foundation Report* that framed the work to complete, set direction for the background studies and BCP chapters, established the expected outcomes, and bridged the gap between the goals in the 2030 General Plan and the BCP. The document included maps, photos, and other graphics, as needed. Public input from the Community Project Orientation Meeting was incorporated, as appropriate, in the *Foundation Report.*

2. TAC Review/Comment on Foundation Report: In August 2012, the Plan Leadership Team provided the TAC with an opportunity to review and comment on the Foundation Report.

3. Committee Orientation Meetings: In August 2013, at separate meetings, City Staff oriented the TAC and CAC as to their duties, the project planning process, and project issues.

4. Project Committee Meetings: The consultants met with the TAC and CAC on October 4, 2012, discussing project opportunities and challenges, growth projections, and community design concepts.

5. Draft Findings Report: The consultants presented Background Study Reports to the Citizen Advisory Committee on November 1, 2013, and included the following topics: 1) Complete Streets; 2) Urban Villages; 3) Right-of-way / Semi Public Spaces; 4) Transit Priority Projects; and 5) Economic Analysis Memorandum. The completed Findings Report, which compiled all background studies, was completed on January 24, 2013.

Phase 3: Design Workshops

A series public meetings with the CAC engaged the community to comment and affect the final design of key aspects of the community plan. First, on January 31, 2013, the consultant presented the initial draft plan concept at three separate meetings to the TAC, CAC, and the general community. On March 14, 2013, a workshop with the community and the CAC was held to critique the initial plan, and to offer alternative designs. In May and August 2013, the Plan Leadership Team sought formal advisory recommendations from the CAC on key topics that arose during the prior meetings, including: 1) function and design of Bellevue Road and Mandeville Road; 2) location for

the project's Research and Development sites and Mixed Use Transit Oriented Development; 3) open space plan; and 4) location of a retail commercial site.

Phase 4: Draft and Adopt Community Plan

1. Draft Plan Preparation: During the months of September, October and November 2013, the Plan Leadership team assembled the results of the Community Design Workshops into a single complete draft BCP together with appendices. As appropriate, the voice of the community was woven into the plan images, maps, narratives and policies. This work included: 1) coordination with local school districts as to the possible general location of future school sites: 2) traffic assessments based on the proposed land use and circulation components of the plan; and 3) a plan maintenance sections to help track the progress of the plan.

2. CAC & TAC Committee Involvement: In January and February of 2014, led by the Planning Staff, both the TAC and CAC reviewed and commented on the Draft Plan, prior to plan adoption.

3. Formal Reviews by City Committees, Commissions and Council

4. Plan Adoption

5. Plan Distribution/Sharing

F.3 Participants in the Plan Development Process

The City of Merced Bellevue Corridor Community Plan was crafted by the Plan Leadership Team, guided by technical support staff and the project planning consultant and actions of an ad-hoc advisory committee, with input from an engaged community. Public involvement during the plan's development process occurred through partnerships between local multi-jurisdictional planning professionals, stakeholder participation, outreach to underrepresented groups, public workshops and recommendations from the project's ad-hoc advisory committee. The project's general public notice list included 135 community members.

F.3.1 Plan Leadership Team

The Plan Leadership Team (PLT) was assembled by the City's Planning Division early in the process to lead and manage the effort to draft the Bellevue Community Plan. This team consisted of City Planning Staff and was supported by a professional planning consultant, a technical advisory committee and other interested government agencies such as UC Merced Physical Planning Design and Construction, Merced County Planning and Community Development, and the Merced County Association of Governments (MCAG). A key role of the PLT was to assure that public outreach efforts during the

planning process were designed to capture community input in ways that guided the drafting of the community plan. Other duties of the PLT included:

- to initiate formation of the Citizens Advisory Committee at the selection/appointment by the City Council;
- to manage the project within the contractual framework of the grant;
- to Facilitate the Planning Process including Public Participation; and
- to produce the draft and final plan documents.

F.3.2 Citizens Ad-hoc Advisory Committee

The Community Plan effort invited collaboration among the parties whose interests could be affected by future development near and within the plan study area. By working together to understand the challenges and needs of the larger community, projects stakeholder with different interests sought to identify a common vision for the plan area. On July 16, 2012, the Merced City Council appointed 21 members to this ad-hoc committee. The *Citizen Advisory Committee (CAC)* met 9 times during the planning period. Detailed minutes of committee meetings, located at the end of this Appendix, are retained as a record of their discussions.

The *Citizen Advisory Committee* was responsible for providing essential insight into several facets of the plan, including:

- First-hand knowledge of the planning area and adjacent projects;
- To comment on project background studies;
- To assess draft land use and circulation plan concepts;
- To identify policy topics to supplement the City's General Plan;
- To discuss current planning efforts and potential methods of implementing plan concepts;
- To review chapters of the community plan throughout the planning process; and,
- To provide a final advisory recommendation.

F.3.3 Technical Advisory Committee

The project benefitted from the coordinated efforts of a multi-jurisdictional technical advisory committee (TAC) that met throughout the planning process to 1) review the ideas from the Plan Leadership Team, CAC and general public; and 2) to give guidance on plan policies, maps and images, and general text of the draft plan. The TAC was comprised of representatives from the City of Merced, UC Merced, Merced County, the Merced Irrigation District, local school districts and the Merced County Association of Governments.

F.3.4 Stakeholders

Stakeholders are individuals or groups that could be affected by the Bellevue Community Plan, or who can provide specialized knowledge of the area. Stakeholders include property owners within and adjacent to the BCP plan area, affected government entities, and community advocates. Plan stakeholders had several opportunities to participate in the development of the Plan, including: attending ad-hoc advisory committee meetings, hosting and attending community outreach workshops, commenting on the draft plan, and discussions with Plan Leadership Team members to share their ideas and concerns about the planning area. Development-focused property owners within the BCP met with the Plan Leadership Team early in the process (May 2012) to share their ideas and interests for consideration in drafting the BCP.

Some stakeholders were also members of the project's ad-hoc Citizen Advisory Committee, and represented the following entities: Merced Bicycle Coalition, California Women for Agriculture, General Business Interests, UC Merced, Virginia Smith Trust, LWH Farms, LLC (part of the University Community Plan), Economic Development Advisory Committee, and the City of Merced Planning Commission. Many other committee members were property owners and/or residents in the area, some with development interests.

F.3.5 UC Merced ReCCES

City Planning Staff partnered with UC Merced Resource Center for Community Engaged Scholarships (ReCCES) to examine and to develop draft plan text and policies regarding the potential for an "Innovation Hub" within the planning area of the Bellevue Community Plan. Through our understanding of successful Innovation Hubs, Merced can take actions to: support entrepreneurs, nurture innovations, incentivize UC spin-off development, and encourage job growth. Through *UC Merced's Resource Center for Community Engaged Scholarship (ReCCES)*, undergraduate students, in coordination with UCM Professor S.A. Davis, conducted research about Innovation Hubs, and on November 1, 2012, shared their insights about Merced's Innovation Hub with community members involved in the development of the BCP.

F.3.6 General Public

All members of the public were encouraged to attend the regularly scheduled meetings with the Bellevue Corridor Community Plan Ad-Hoc Advisory Committee. At these meetings, City Staff and the project consultant presented plan-related materials and sought public input prior to action by the Committee.

F.3.7 Underrepresented Groups

The City of Merced includes several economically and socially underserved populations including: the NAACP, Hmong Community, Merced Lao Family Community, Hispanic Network, Area Agency on Aging, Merced/Mariposa County Asthma Coalition, Healthy Communities Access Program, Merced County Farm Bureau, Boys and Girls Club, Merced Alliance for Responsible Growth, Merced Bike Coalition, the Community Partnership Alliance, various neighborhood groups, and several faith-based organization such as the Salvation Army. In Fall 2012, through direct mail service, phone calls and emails, City Planning Staff introduced the BCP project, offered to meet with, and invited participation from underrepresented groups in the community. Interest in the project from these groups was extremely low. The City was successful in working with local student through the UC Merced Resource Center for Community Engaged Scholarships (ReCCES) as described above, however.

F.3.8 Local Tribal Governments

Consistent with the State of California, Tribal Consultation Guidelines, the following Native American Tribes were notified of the project and were invited to comment: the Amah Mutsun Tribal Band, the North Valley Yokuts Tribe, and the Dumna Wo-Wah Tribal Government.

F.4 Public Outreach Events and Activities

A key objective in the public outreach strategy was to give the public many opportunities to participate during the drafting of the plan. This objective was achieved and the events and activities utilized are detailed here. The full listing of public outreach events are summarized in Table F-1.

F.4.1 Opportunities for Public Comments

Public Survey and Comment Forms

At all Public Community Meetings and at the March 14, 2013 Citizen Advisory Committee meeting, the general public was invited to offer comments and ideas through survey efforts. These comments and responses are provided at the end of this Appendix.

Informational Webpage

An informational website was created to inform the community about plan development and to solicit information pertinent to its development. The webpage address www.cityofmerced.org was publicized in all press releases, mailings, questionnaires, and public meetings. Information on the Citizens Advisory Committee, public meetings, key elements of the plan, and drafts of the BCP were made available throughout this process.

Citizen Advisory Committee Meetings

All CAC meetings were advertised as public meetings on the City website, emails, and official public notice location at City Hall. Meetings were held in the Sam Pipes Room, 678 W. 18th Street, Merced, generally from 1:30 PM to 4:30 PM.

August 23, 2012: Orientation meeting for the Citizen Advisory Committee.

October 4, 2012: Presentation about corridors, street design, transit-oriented-development, city blocks and growth projections.

November 1, 2012: The Citizen Advisory Committee meeting had several presentation and discussion topic: Innovation Hub, Project Overview, Economic Study, Mobility Study, and Community Form. These subjects were assessed, presented and discussed to lay the foundation to craft alternative land use and circulation plans.

January 31, 2013: The Citizen Advisory Committee met to discuss draft alternative plans at an open public meeting at the Sam Pipes Room, 678 W. 18th Street, Merced, from 1:30 PM to 4:30 PM. That evening, a community outreach event with a similar presentation was held from 6:00 PM to 8:00 PM, at UC Merced, in the *California Room* on Scholars Lane. Public Comments were received.

March 14, 2013: The Citizen Advisory Committee met to continue their discussion about the draft land use plan at an open public meeting at the Merced City Civic Center from 1:30 PM to 4:30 PM. Planning Staff presented background information about the Draft Community Plan Chapters, Urban Villages, and a recap of the consultant's presentation regarding the initial draft land use plan. The Committee then met in a workshop format in small groups to provide feedback to the consultant via a short questionnaire and by sketching alternative land use concepts for further consideration, review and action by the Committee at a subsequent project meeting. The Committee crafted five land use concepts.

May 2, 2013: The Citizens Advisory Committee reviewed land use and circulation plan-related issues and provided advisory recommendations on various topics. This exercise was partly based on the results of the survey from the March 14, 2013 CAC meeting. The advisory recommendations were made on the following topics: 1) the function of Bellevue Road and Mandeville Avenue; 2) the characteristics of the local street network; 3) the location of the future business park and the mixed-use cores within the plan area; 4) the open space plan; and 5) placement of retail commercial at the intersection of "G" Street and Bellevue Road. Prior to making these advisory recommendations, the project consultant presented background information.

August 15, 2013: Core elements of the draft community plan (see actions from March 14, 2013), along with new potential draft land use and circulation plan features (to provide greater definition to these elements) were presented to the Citizen Advisory Committee. Members provided comments on a variety of topics for consideration by Staff and the project consultant. Additionally, the consultant introduced new concepts and specific ideas concerning the design of a future "gateway entrance" to the BCP plan area. The Citizen's Advisory Committee also completed its review of a conceptual

community shopping site at G Street and Bellevue Road. The meeting concluded with a discussion of draft policies for the Bellevue Community Plan.

June 12, 2014: Staff and project consultant, Lisa Wise, presented key aspects of the draft plan by powerpoint to the Bellevue Community Plan Ad-Hoc Citizens Advisory Committee, and received input from the audience and committee members. Several changes were recommended and many questions were answered. The Committee voted to hold one more meeting to review the suggested changes raised at the meeting.

August 25, 2014: (pending)

General Public Community Meetings

In addition to the public CAC meetings, several public community meetings occurred throughout the development of the BCP to identify common concerns and ideas regarding community planning and to discuss specific goals and actions of the BCP.

May 4, 2012: *Public Orientation Meeting*, held at the City of Merced Civic Center. This was a broad outreach effort to property owners within and adjacent to the project site, as well as to a variety of community groups, and public and private individuals interested or actively involved in local planning-related projects. More than 450 invitations, in addition to general advertising, were distributed. The meeting included two key presentations: 1) presentation by Richard Cummings, Principal Planner from UC Merced, Physical Planning, Design and Construction, described the UC Merced Campus Master Plan; and 2) presentation by Bill King, Principal Planner from the City of Merced, described the anticipated planning effort of the Bellevue Community Plan; its guiding principles; and the project's next steps - research of plan options. The public was provided an opportunity to offer written and verbal comments.

January 31, 2013: The Citizen Advisory Committee met to discuss draft alternative plans at an open public meeting at the Sam Pipes Room, 678 W. 18th Street, Merced, from 1:30 PM to 4:30 PM. That evening, a community outreach event with a similar presentation was held from 6:00 PM to 8:00 PM, at UC Merced, in the California Room on Scholars Lane. Public Comments were received.

F.4.2 Opportunities for Review by Policy Makers

BICYCLE ADVISORY COMMITTEE

At public meetings on April 24, 2012, and October 22, 2013, the City's Bicycle Advisory Commission (BAC) reviewed and commented on the bicycle-related draft planning effort

in the planning area of the Bellevue Community Plan. Individual comments from BAC members were offered and considered, and are reflective in the BCP Bicycle Transportation Plan.

PARKS AND RECREATION DEPARTMENT

On June 23, 2014, the City's Recreation and Parks Commission held a study-session on the draft plan.

ECONOMIC DEVELOPMENT ADVISORY COMMITTEE

On April 29, 2014, the City's Economic Development Advisory Committee held a study-session on the draft plan.

PLANNING COMMISSION

On June 20, 2012, Planning Staff presented an overview of the Bellevue Community Plan project to the Planning Commission (PC), and also requested the PC to select a representative to sit as a member of the Bellevue Community Plan Ad-hoc Advisory Committee. May Ward was appointed. On December 5, 2012, City Planning Staff presented an update of the project to the PC. At this meeting, Carole McCoy was appointed as project's PC representative to replace Planning Commissioner Mary Ward, who had resigned from the position. On May 21, 2014, the City Planning Commission held a study-session on the draft plan.

CITY COUNCIL

On May 17, 2010, the City Council authorized City Staff to submit a grant application to draft a community plan for the study area. On February 6, 2012, the City Council approved a contract with Lisa Wise Consulting to assist Planning Staff with the drafting of the Bellevue Community Plan. On July 16, 2012, the City Council appointed 21 community members to the project's ad-hoc Citizen Advisory Committee. On July 7, 2014, the City Council held a study-session on the draft plan. On August 4, 2014, the City Council reviewed draft language for the Final Plan Report (i.e., a status report of the project), a requirement of the grantor, the Strategic Growth Council.

F.4.3 Table F-1: Public Outreach Events

Table 1.2: Bellevue Corridor Community Plan - Public Outreach Table			
Date	**Event Title**	**Plan Participants**	**Outreach Methods**
10-20-11	MCAG Staff	PLT	NA
3-13-12	Project Kick-off Meeting	City, Con, Part	NA
5-2-12	Community Stakeholder Meeting	CS	DMN, EN
5-4-12	Community Orientation Meeting	PLT, CS, GP	W, DMN, PR, EN
6-1-12	Government Review Committee /Greater Chamber of Commerce	PLT	Not a City meeting
6-20-12	Planning Commission	PLT, GP	PHN, PN
6-26-12	Economic Development Advisory Committee	PLT	PN
7-16-12	City Council – Appointed Citizen Committee	PLT, GP	PHN, PN
8-22-12	TAC Orientation Meeting	TAC, PLT, CS, GP	W, PN
8-23-12	CAC Orientation Meeting	CAC, PLT, CS, GP	W, PN, PR, EN
9-18-12	Merced City School District	PLT	Not a City meeting
10-4-2012	TAC and CAC / Community Meetings	CAC, PLT, CS, GP	W, PN, PR, EN
11-1-2012	CAC/Community Meeting - UC Merced ReCCES Presentation – Planning for an Innovation Hub & Findings Report	CAC, PLT, CS, GP	W, PN, PR, EN
12-14-2012	Partner Meeting with UCM Staff	UCM Staff/City	NA
1-8-2013	Partner Meeting with UCM/UCP Owners	PLT	NA
1-23-2013	Partner Meeting Merced County	PLT	NA
1-31-2013	TAC and CAC Meetings	PLT, CS, GP	W, PN, PR, EN
1-31-2013	Community Project Update Meeting at UC Merced	CAC, PLT, CS, GP, TAC	W, DMN, PR, EN
3-14-13	CAC Meeting/ Workshop	PLT, CS, GP	W, PN, EN
5-2-13	CAC Meeting	PLT, CS, GP	W, EN, PN
5-8-13	School Site Meeting	PLT	Not a City meeting
7-30-13	TAC Meeting; Review Draft Core Elements	PLT	NA
8-15-13	TAC and CAC Meetings	PLT, CS, GP	W, EN, PN
9-26-13	TAC Review of Draft Policies	PLT	EN
4-29-14	Economic Development Advisory Committee	PLT	EN, PN
5-21-14	City Planning Commission	PLT, GP	PHN, EN, PN
6-12-14	CAC Meeting	PLT, CS, GP	W, EN, PN
6-23-14	Merced Recreation and Parks Commission	PLT, GP	PHN, EN, PN
7-7-14	City Council Study Session	PLT, GP	PHN, EN, PN
8-25-14	CAC Meeting	PLT, CS, GP	W, EN, PN

Community Participation Table Key

Code	Outreach Method Description
DMN	Direct Mailed Notices
PHN	Published Hearing Notices
W	Website
EN	Email Notifications
PN	Posted Agendas at City Hall
PR	Press Releases

Code	Participants
PLT	Plan Leadership Team
CAC	Citizen Advisory Committee
TAC	Technical Advisory Committee
CS	Community Stakeholders
GP	General Public

F.5 Public Comments/Survey Results

F.6 Minutes of the Ad-hoc Citizen Advisory Committee Meetings

- August 23, 2012 CAC Meeting Minutes
- October 4, 2012 CAC Meeting Minutes
- November 1, 2012 CAC Meeting Minutes
- January 31, 2013 CAC Meeting Minutes
- March 14, 2013 CAC Meeting Minutes
- May 2, 2013 CAC Meeting Minutes
- August 15, 2013 CAC Meeting Minutes
- June 12, 2014 CAC Meeting Minutes
- August 25, 2014 CAC Meeting Minutes

Technical Appendix G: Merced Loop Road

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G.1 Merced Loop Road

G.1.1 Introduction

The loop concept came from the Highway 99 Major Investment Study begun in 1993 and adopted by the Merced County Association of Governments (MCAG) in 1997. It derived from an assessment that State Highway 99 through Merced/Atwater could only fit 6 lanes on the existing footprint, although 8 lanes would be needed in the future; with a full loop-road, 6 lanes would suffice. The Campus Parkway idea came from the City of Merced's "Eastern Beltway" study. The Atwater-Merced Expressway originated from plans for a functional north-south state highway to replace the existing Highway 59 alignment. The other sides of the loop were drawn where they seemed most reasonable.

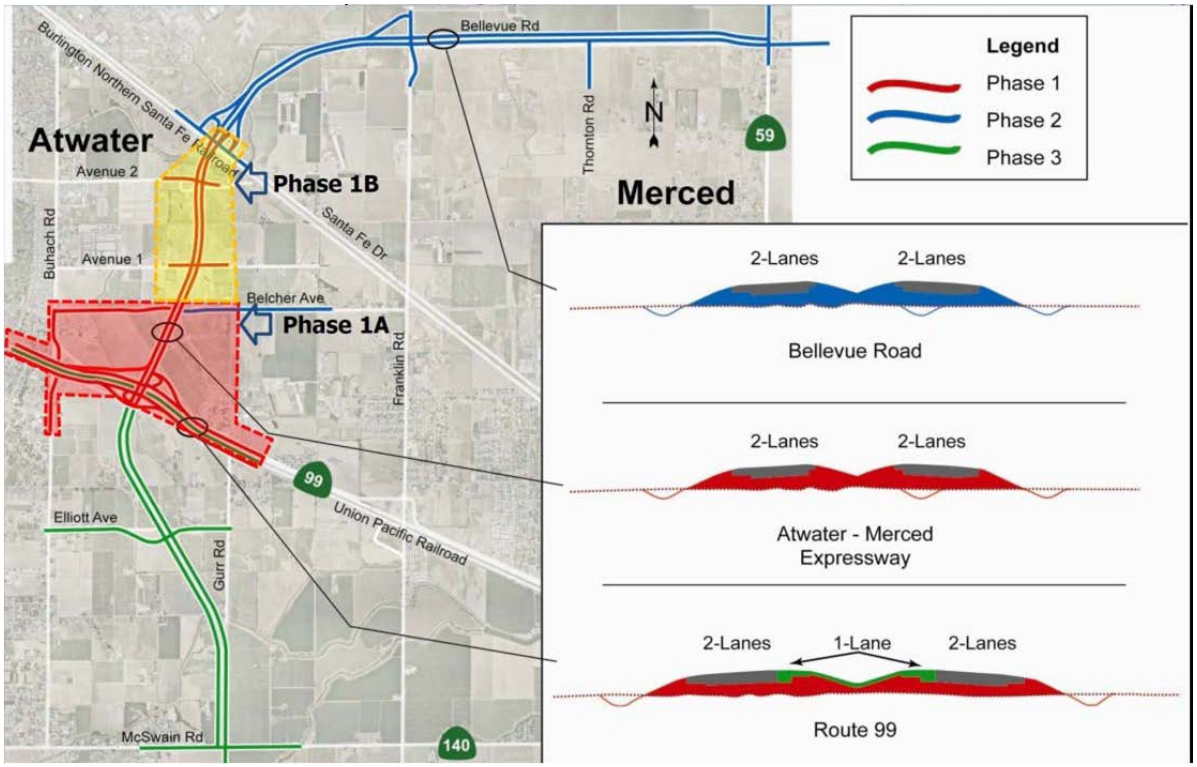
Portions of the loop-road were never definitively identified as an expressway, for example, Bellevue Road between State Highway 59 and Lake Road; Mission Avenue/Dickenson Ferry Road; and that section of Campus Parkway located north of Yosemite Avenue, among others. An all-expressway loop-road isn't being actively planned, and the loop has not been called out prominently in the Regional Transportation Plan (RTP) for several years. While major transportation infrastructure is still needed to support planned growth, funding expectations are much less than they were years ago.

The Campus Parkway Project and the Atwater-Merced Expressway (AME) are two segments of the loop road that are being planned, designed, and constructed as funding becomes available. These are described below in greater detail.

G.2 Atwater Merced Expressway (AME)

G.2.1 Overview

The design of the Atwater-Merced Expressway calls for tightly controlled access and an ultimate 4-lane expressway. The Project is a multi-phased project.



G.2.2 AME Cost Estimate

Funding for Phase 1A-Remainder, Phase 1B, Phase 2, and Phase 3 has not been identified or collected.

Phase	Cost	Funding Need
1A-Reduced		
R/W	$ 11.9 M	$ 11.9 M
CON	$ 54.3 M	$ 54.3 M
1A-Remainder	$ 46.9 M	$ 46.9 M
1B	$ 66.2 M	$ 66.2 M
2	$ 83.9 M	$ 83.9 M
3	$ 71.8 M	$ 71.8 M

G.2.3 Proposed Intersections with the AME

G.2.4 AME Phasing Plan

Phase 1A-Reduced

A Tier 1 Project in the Regional Transportation Plan, this phase includes the construction of a new Hwy 99 interchange (replace Buhach Road Interchange), along with a 2-lane expressway to connect with Green Sands Ave. Ashby Road will be closed off near Gurr and Buhach Roads. Phase 1A-Reduced is fully funded for design, and right-of-way certification is anticipated to be completed by mid-December 2012. MCAG will request ~$55 million funding allocation for construction from CTC in March 2013.

Phase 1A-Remainder

Replace OH Bridge, widen to 4 Lanes for AME segment, local facilities and Bridge Structures. Replace Buhach Road Overhead Bridge. Widen to 4 lanes the AME Phase 1A segment, local facilities, and bridge structures.

Phase 1B

Green Sands Avenue to Santa Fe Drive. Construct new expressway from Green Sands Avenue north to Santa Fe Drive overcrossing structure. Funds will need to be identified.

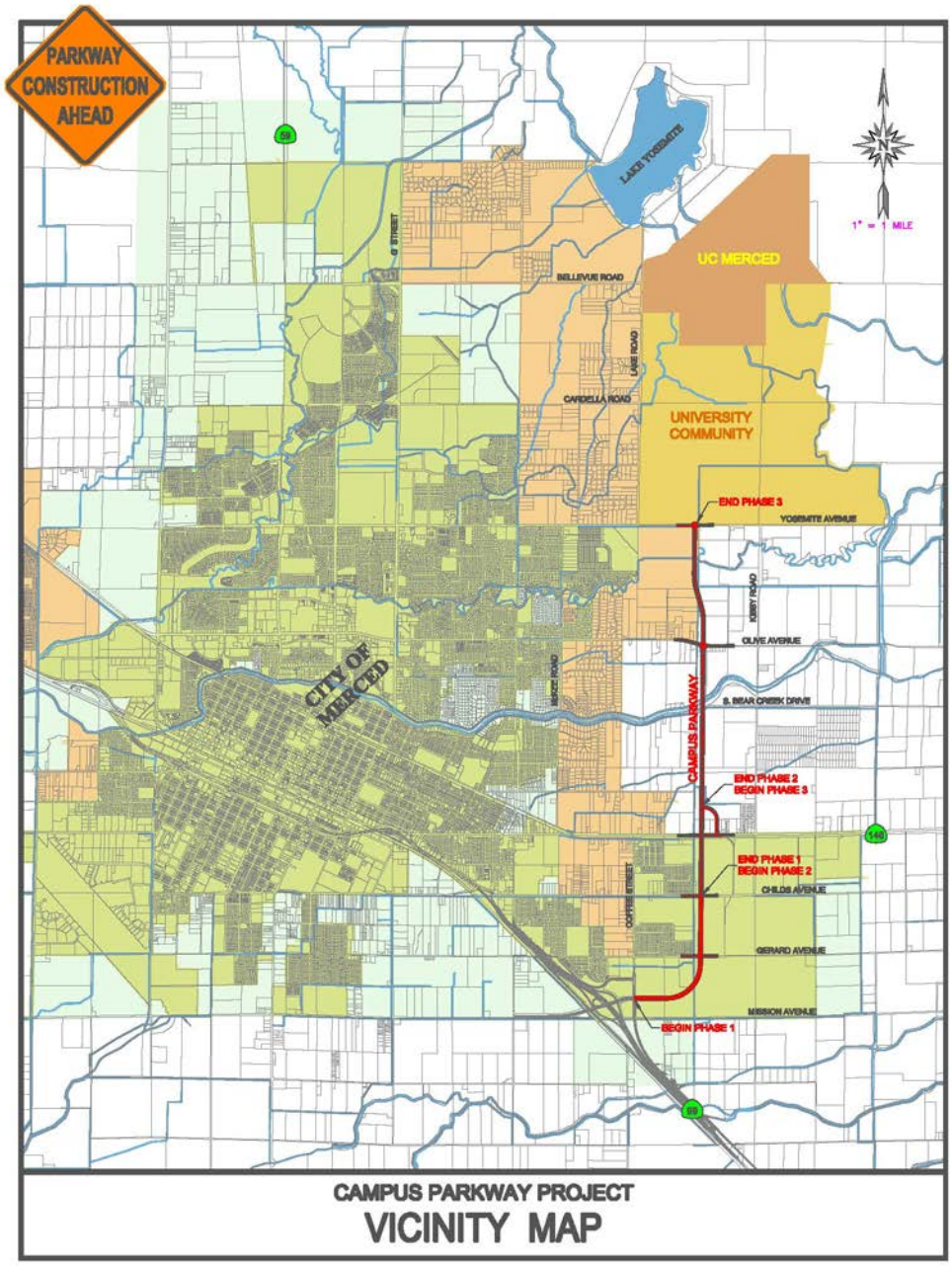
Phase 2

Santa Fe Drive to Hwy 59. Construct new expressway from Santa Fe Drive overcrossing structure to connection with Hwy 59. Funds will need to be identified.

Phase 3

New Hwy 99 Interchange to Hwy 140. Construct new expressway from new Hwy 99 interchange south to connection with Hwy 140. Funds will need to be identified.

G.3 Campus Parkway



G.3.1 Phases of the Campus Parkway Project

The planning, design, and construction of the portion of Campus Parkway located south of Yosemite Avenue is being spearheaded by Merced County, whereas the segment between Yosemite Avenue and Bellevue Road will be incorporated into the development plans of UC Merced and the University Community. The Circulation Element of the *Bellevue Corridor Community Plan* refers to the southern segment as Campus Parkway "Proper," and the southern segment as Campus Parkway "Extended."

Campus Parkway "Proper"

Merced County took the lead to prepare detailed analysis and design plans for the portion of Campus Parkway from SR-99 to Yosemite Avenue, and has received CEQA and NEPA EIR and EIS certification respectively.

Phase 1 – Mission Avenue Interchange (Hwy 99) to Childs Avenue: This segment has been completed and is open to traffic.

Phase 2 – Childs to Connector Road to SR 140: The segment is fully designed, right of way is being acquired, and ready to construct as soon as sufficient funds have been identified. According to Merced County, this segment is the most critical at this time and would be constructed next. The cost to construct this segment has been determined to be approximately $33 million; NOTE: the 2011 RTP states $43 million.

Phase 3 – Connector Road to SR 140 to Yosemite Avenue: This segment is fully designed, right of way is being acquired, and ready to construct as soon as sufficient funds have been identified. The cost to construct this segment has been determined to be approximately $54.6 million.

Campus Parkway "Extended"

Detailed plans of this section of the Campus Parkway have yet to be prepared. Detailed analysis and design of Campus Parkway Extended has been deferred until the UC and Trust move forward with their next phase of planning for the University Community. Based on land ownership patterns, "Campus Parkway Extended" has three phases.

Segment 1 – Yosemite Avenue to Cardella Road: This segment is located through the southern portion of the University Community.

Segment 2 – Cardella Road to a point ¼ mile south of Bellevue: This segment is located along the western edge of the University Community.

Segment 3 – The ¼ mile segment south of Bellevue Road : This segment is located along the western edge of UC Merced.

G.3.2 Character of the Campus Parkway

Campus Parkway is planned to extend 4.5 miles from the Mission Interchange at Highway 99 to Yosemite Avenue. While constructed as a four lane road, it has the potential for six lanes.

Access to Campus Parkway

Campus Parkway was envisioned and designed to be a limited-access expressway. At-grade intersections are proposed with other major streets, namely: Yosemite Avenue, Olive Avenue, Childs Avenue, and Gerard Avenue. A connection with State Route 140 is proposed to be provided with a hook-shaped ramp connector roadway. Overpass bridge structures are proposed over State Route 140 and the adjacent BNSF Railroad as well as over Bear Creek and the adjacent Bear Creek Drives. Access to adjacent parcels via collector roads, local roads and driveways, while not prohibited, would be inconsistent with the design and purpose of the intent of the roadway. Development of lands adjacent to the Campus Parkway will be influenced by plans approved by the City of Merced, Merced County, and the State of California (UC Merced). These are discussed briefly below. Generally, an expressway nature with limited access will characterize that segment located between the Mission Avenue Interchange and Yosemite Avenue, while those portions of Campus Parkway that are adjacent to more intensive land uses (commercial, residential, business centers, and research and development parks) are likely to function more like a limited access major arterial with signalized collector street intersections.

City of Merced

The Campus Parkway extends through the City of Merced from the Mission Avenue Interchange at State Route 99 to the south side of SR 140. Although mostly vacant today, adjacent lands have urban land use designations for future commercial, industrial, business-park, and residential uses. Discussions between Staff and property owners have included consideration of access points in a manner that benefits the Parkway and provides reasonable access to adjacent development.

Merced County

The Campus Parkway is planned to extend through unincorporated lands in Merced County from SR 140 to Bellevue Road. In this area, the Campus Parkway may have three separate designs:

1) From SR 140 to Yosemite Avenue - The nature of this segment is an expressway, with road connections at SR 140, Olive Avenue, and Yosemite Avenue, and overpasses of Bear Creek and adjacent Bear Creek Drives. Adjacent land uses are agricultural and lay outside the City of Merced's Sphere of Influence.

2) Between Yosemite Avenue and a point ¼ mile south of Bellevue Road, the Campus Parkway will extend through the future University Community. According to the adopted *2004 University Community Plan* (Figure 16 and Table 3), south of Cardella Road, Campus Parkway is conceptually described as a major arterial boulevard having a maximum of 6 lanes, posted speed of 35 mph to 45 mph, and intersection spacing of ¼ mile within a 128-foot right of way. Adjacent land uses will be residential, commercial, and business centers. Although Campus Parkway may not be an expressway through the community, it will still be a limited-access major arterial.

3) Per the 2009 Long Range Development Plan for UCM, which includes lands controlled by the State of California and the Virginia Smith Trust (VST), the segment of the Campus Parkway between Cardella Road and a point ¼ mile south of Bellevue is adjacent to lands planned for a future high school and park, and research and development. Street intersection spacing is ¼ mile, and less in some areas. The southern leg of the Campus Loop Road (a four lane road with a 120-foot right of way) intersects with Campus Parkway at a traffic circle, approximately ½ mile south of Bellevue Road. Campus Parkway planned as a four lane facility (with potential to expand to 6 lanes) in a 150-foot right-of-way.

UC Merced

Between Bellevue Road and a point ¼ south of Bellevue Road, Campus Parkway is a four lane facility (with potential to expand to 6 lanes) within a 150-foot right-of-way. A large traffic circle is planned at its intersection with Bellevue Road, and an at-grade street intersection with Campus Parkway is planned ¼ south of Bellevue Road. This intersection provides access to the research and development land uses located in this area; this connecting road is described as a 2 lane facility with turn lanes in an 80-foot right-of-way.

Pedestrian and Bicycle Facilities

A dual-use pedestrian sidewalk and off-street bike path is located on the north side of the Campus Parkway, between Coffee Street and Childs Avenue. This facility is separated from the roadway by a landscaped parkway, and north of Gerard Avenue, it meanders through landscaped stormwater detention facilities that serve the Campus Parkway.

Utilities

The Campus Parkway contains an east-west oriented replacement sewer and water lines in the Gerard Avenue intersection. Irrigation lines for landscaping along the roadway were also installed.

G.3.3 Funding and Constructing the Campus Parkway Project

Campus Parkway "Proper"

Phase 1 – Has been constructed.

Funding Sources: The RTP includes Phases 2 and 3 as Tier 1 projects, costing approximately $43 million and $57 million respectively, to be covered by RTIF funds and funds collected locally as fees from developers. For example, UC Merced will pay a "proportionate share" as a CEQA mitigation-related fee. The RTIF estimates the overall cost to be $63 million to complete Phases 2 and 3, with $48 million from RTIF sources and $15 million from other sources. As of October 2012, $518,000.00 is available for construction.

Design: The Campus Parkway "Proper" project is a Merced County project. Phase 2 and 3 are fully designed and ready to construct as soon as sufficient funds have been identified.

Construction: According to Merced County, Phase 2 is the most critical and would be constructed next. Although the current Regional Transportation Plan (RTP) lists Phases 2 and 3 to be constructed and opened to traffic in 2012/2014 and 2014/2016 respectively, these forecasts will be adjusted with the next RTP.

Campus Parkway "Extended"

Funding: The 2011 RTP lists Campus Parkway Extended as a Tier 2 project of the regional roadway network. Tier 2 projects are not on the list of regional projects and do not receive regional funding; they are funded by local mechanisms. The 2011 RTP estimates the construction of Campus Parkway Extended will cost $50 million dollars. No local dollars have been set aside for construction of this segment of the Campus Parkway.

Design: The Campus Parkway "Extended" project is to be designed and constructed by adjacent landowners/developers. Detailed plans of this section of the Campus Parkway have yet to be prepared. Detailed analysis and design of Campus Parkway Extended has been deferred until the UC and Trust move forward with their next phase of planning for the University Community.

Construction: Currently, there are no construction forecasts for the Campus Parkway Extended. From the County's perspective, the developers of the University Community, UC Merced and/or other projects which will create the need for this section of roadway are expected to construct this portion of Campus Parkway. While the *UC Merced 2009 Long Range Development Plan* accommodated the Parkway, UCM does not plan to construct the road. Further discussions are needed to define construction responsibilities of the road adjacent to UC Merced. Until such time as the Campus Parkway is constructed, traffic will utilize Lake Road, and as traffic levels

increase, necessary improvements to Lake Road would be made. No additional travel lanes are being planned for Lake Road, however.

Table 16: Regionally Funded Projects – all amounts in millions (x $1,000,000) in YOE*

map	Projects: Route - Project – Scope/Type - Limits and/or (Post-miles)	Year (CON / Open to traffic)	Total Cost (in YOE dollars)	Cost by Funding Programs/Source (deciding agency in parentheses): IIP, TCRP, SHOPP (State)	99 Bond (State)	RIP (MCAG)	RTIF (MCAG)	Dev., Local (Other)
	Tier 1							
D	99 - Arboleda Freeway - 4E to 6F - (4.6 - 10.5)	'10 / '13	177	37	140			
E	99 - Plainsburg Freeway - 4E to 6F - (0.0 / 4.6)	'11 / '14	119	11	108			
F	99 - Livingston-Delhi Widen - 4F to 6F - (28.8 / 37.3)	'14 / '16	80	80				
G2	n/a - Campus Parkway - new 4E – Childs Ave. to Hwy. 140	'12 / '14	43	5			27	11
G3	n/a - Campus Parkway - new 4E - Hwy 140to Yosemite Ave	'14 / '16	57				21	36
H1	152 - Los Banos Bypass, segment 1 - new 4E - Hwy. 165 to Santa Fe Grade (x / 24.8)	'14 / '16	72	30		17	25	
H2	152 - Los Banos Bypass, segment 2 - new 4E - w. of Los Banos to Hwy. 165 (16.0 / x)	'20 / '22	154	45		84	25	
I1	59 – Widening phase 1 – intersection, turn lanes	'12 / '13	6			6		
I2	59 - Widening - 2C to 4C - 16th to Olive (15.4 / 16.6)	'16 / '18	35			35		
K1	99 – Atwater-Merced Expressway Phase 1A (19.3 / 20.9)	'12 / '15	98		50	18	30	
K	59 - Atwater-Merced Expressway - new 4E	'22 / '25	116			52	30	34
	Tier 1 Subtotal		**957**	**208**	**298**	**212**	**158**	**81**
	Tier 2 - Unconstrained							
	Bellevue Rd connection to 99 Westside		10				2.15	
	Mission Ave. Improvement (59 to 99)		16				1.70	
	SR 99 Merced to Atwater Freeway – to 6 lane - (12.8 - 19.3)		260					
	SR 99 Atwater Freeway and Applegate Interchange – to 6 lanes – (20.9 – 23.8)		160					
	SR 59 widen to 4/5 lanes – Mission to Childs		10				5.00	
	SR 59 widen shoulders, passing lanes – SR 152 to Mission Ave.		45					
	SR 140 widen to 4 lanes – Bradley Overhead to Campus Pkwy		14				5.25	
H3	152 - Los Banos Bypass, segment 3 - interchanges		191					
	SR 165 realignment / N. of Hilmar		43				11.20	
	140/33 Gustine Truck Route		15				3.05	
	Campus Parkway – Yosemite Ave. to Bellevue Rd.		50					
	SR 165 widening/bypass Los Banos		25					
	Santa Fe Ave. widening from 59 to Winton		50					
	SR 59 Southern re-alignment		150					
	Tier 2 subtotal		**1,039**					
	Total Need =		**1,996**					

*: YOE is "Year of Expenditure".
Note that all amounts are estimates based on the information available and are subject to change.

Technical Appendix H, "Innovation Hub"

-Elements, Relevance and Suggested Policies

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H.1 Innovation Hub Project

H.1.1 Project Overview

The addition of UC Merced to California's San Joaquin Valley is hoped and expected to expand local economies through what is commonly called "spin-off industries." Yet, a research university is only one part of a larger system that is needed to generate such growth. This system is commonly referred to as an innovation hub, or innovation ecosystem. Communities with research universities, such as Merced and the surrounding areas, have some form of this system. What are these systems? How can these systems be developed and assembled to form an environment for UC spin-off development? What cultural and physical elements should be deployed to facilitate these changes to occur?

In cooperation with UC Merced's *Resource Center for Community Engaged Scholarship Program* (ReCCES), undergraduate students have conducted research about Innovation Hubs and its relevance to the greater Merced Community and the Bellevue Corridor Community Plan area, so that applicable findings could be woven into the Bellevue Corridor Community Plan, located immediately west of UC Merced. The project sought two deliverables:

1. Technical Memorandum

   The Technical Memorandum includes an assessment and recommended policies for the City to consider. The assessment defines and describes what is meant by an Innovation Hub (IH), describes existing IH's in California, and describes essential traits of an IH. Using this knowledge, and with guidance from the City's planners and consultants, the students created draft plan policy language to give guidance to the City as to how it can encourage the growth of IH's in Merced, and to facilitate development of future research parks in the *Bellevue Corridor Community Plan* area.

2. Public Presentation

   The presentation was made on November 1, 2012, to the Bellevue Corridor Community Plan's Ad-hoc Citizens Advisory Committee and Technical Advisory Committee, as well as other invited guests of the community.

H.1.2 What is an Innovation Hub?

An innovation hub is a place that supports the flow of both information and technology through various enterprises. A*n innovation hub models the relationships that are formed between community members, and enables technological development through innovation. These relationships occur geographically, whether at a local research university, nearby neighborhoods, in government offices and throughout the environmental, social, and economic sectors of the community. It's a process occurring between people in their community.* By this direct process flow of information, the original idea can manifest into an educational thought, a service or a product on the market. A conceptual model of an Innovation Hub is presented below.

Although Innovation Hubs are generally known in the economic sector, according to the *USC Stevens Center for Innovation*, innovation can come from the arts and social sciences as well as engineering or medicine. It can take the shape of new products or services; new ventures, ranging from venture-backed startups to non-profits; as well as new organizational models. Innovation can be any groundbreaking approach or advancement that changes the way we live, work, and play. All forms of innovation should be encouraged to provide a wide array of benefits. One of the best ways to spur job creation and economic growth is by facilitating more efficient translation of budding innovations from research centers into the commercial sector.

H.1.3 Essential and Supportive Inputs of an Innovation Hub

An innovation hub requires certain inputs to be present. These include:

<u>Research University</u> - A research university generates knowledge and ideas, facilitating innovation. Researchers ponder big questions. How would you improve cancer treatment? Can solar power be produced more efficiently? Why can't X-rays be taken with smaller devices? And sometimes they come up with the answers. When that happens, the *technology transfer offices* at the university can then help them "spin-off" their research into businesses that create jobs or other societal benefits.

"A rich pool of talent with diverse experience and skill-set can bring about market-place disruptions. Academia, another stakeholder, plays a big role in developing such talent. Today's business environment requires creating a mindset shift from the traditional career paths to encourage risk-taking, challenging status quo, ability to think differently and be more adaptive. University and colleges have a significant role to play in shaping this kind of talent base." [2]

Industry - Industry can help create, support, and grow an environment conducive for innovation by:

- Supporting the development of key technology clusters;
- Investing resources in industry-higher education partnerships in key technology sectors;
- Committing to the investment of start-up funding for these industry-higher education initiatives - particularly early stage; and,
- Committing to supporting the seed capital and venture capital continuum to ensure there is sufficient funding at each stage in the cycle to promote market worthy opportunities.

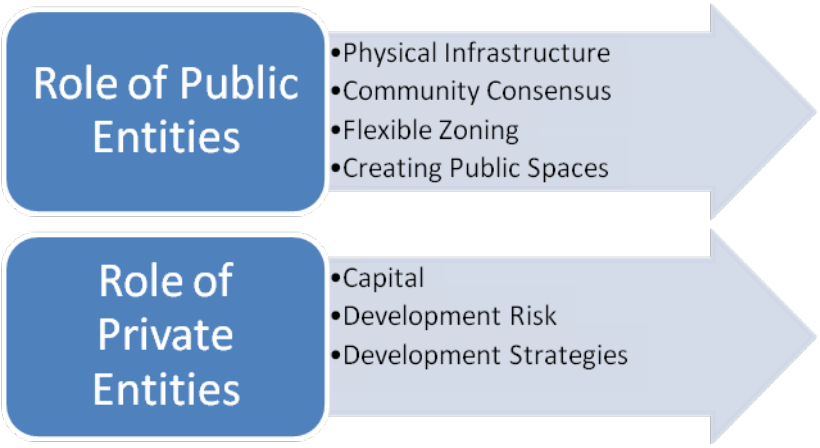
Entrepreneurs/Talent – According to Krisztina Holly of the *USC Stevens Center for Innovation*, innovation starts with the "understory" of the economic food chain: the entrepreneurs. In this group are diverse and future-oriented thinkers that have the potential to advance an economy despite times of struggle; entrepreneurs gives us the mutations - the radical changes that enable groundbreaking ideas to enter the ecosystem if they are worthy. Supportive traits for entrepreneurs include places to meet and network, and housing.

Supportive Traits

***Places to Meet/Networks* -** It is important to create public spaces of interest to attract a variety of people with varying ideas and perspectives. Tech firms value public realms that foster a melting pot of ideas. Innovation strategist Vivek Wadhwa, Director of Research at the Center for Entrepreneurship and Research Commercialization at Duke University's Pratt School of Engineering, says "Innovation is about people," and stresses the importance of fostering an environment that facilitates interaction among individuals. Similarly, in the Wall Street Journal's article "For Creative Cities, the Sky Has Its Limit," (July 27, 2012), Richard Florida states, "what matters most for a city's metabolism- and ultimately, for its economic growth – isn't density itself, but how much people mix with each other." Richard Florida is the director of the Martin Prosperity Institute at the University of Toronto's Rotman School of Management and author of "The Rise of the Creative Class, Revisited." Social Innovation System and Networking Systems support the formation of entrepreneurs. The Innovative Cities Model (ICM) is a framework of eight elements that outlines the necessary conditions for nurturing and sustaining social innovation within a city's limits.

Housing - Diverse housing options for families and students in a close proximity to research and retail facilities.

Local Government/Community Understanding and Involvement **-** Understanding the roles that different partners contribute to the process of developing an innovation hub is the final key input. Michael Cohen, Partner of the Strada Investment Group, summarized the Public—Private partnership as follows:



H.1.4 Examples of Innovation Hubs

Each Innovation Hub provides essential resources for the surrounding area's economy including entertainment, research, and housing for residents. Three of the most successful innovation hubs are the Riverside campus University Village, UC Davis community, and the Claremont Village. Examining the case studies of these innovation hubs' mistakes and challenges/obstacles, provide insight on how to make the Bellevue Corridor successful, sustainable, and innovative.

Developed in 1996, UC Riverside developed its University Village, designed to be a shopping hub catering to the local student population with lively entertainment. However, the village faced various obstacles and made vital mistakes, preventing its potential success and overall reputation of the project. Delayed construction prior to the village being built not only lost interest in consumers, but lost potential housing residents. Additionally, once construction was completed, the structure found retail properties for tenants and retailers to be vacant with little interest in demand, and little to no available parking during peak hours in the day and an overwhelmingly large crowd of consumers during lunchtime only rather than early in the morning or later in the evening. Lastly, the village catered more to student demands rather than that of the local community, therefore summertime and other holiday breaks caused retailers to generate little to no profit.

Davis attempted to develop a "university – oriented city" community by combining big city and small-town amenities alongside conservation and environmental programs. In contrast to Riverside's University Village, Davis provided an excess amount of available parking while most of its consumers were taking public transportation to its location. The Davis community also did not accommodate to interests and demands of the local community residents and was located in accordance and access simply to the campus, with little retail stores located in the actual town of Davis. Its mistakes were more so architectural in the fact that their buildings were one-story and flat, low-hanging trees blocked signs of retail stores, and car and bike lanes were blocked by congested intersections.

The Claremont Village (also called the New Village), built in 2007, is a metropolis comprised of small boutiques, offices, art galleries, and restaurants, notorious for its immense parking structure, five-

screen movie theater, hotel and commercial buildings that include their own offices from the local, regional, and national sector and retail stores. Also, because Claremont attempted to impede automobile transportation of its consumers it limited parking availability, which became one of the most detrimental mistake of the Village. Reducing the amount of parking especially influenced congestion during prime consumer hours of lunch and dinner and unmarked roads confused pedestrian consumers. The New Village shops threatened the success of the Old Village, (an innovation hub previously built), that housed many local mom and pop stores and was losing appeal from local consumers that appreciated the Old Village's "unique charm."

Analyzing the mistakes of these three primary innovation hubs, the Bellevue Corridor should offer the following traits to be successful. Firstly, the Corridor should strive to meet the demands of not only the students, but the local community as well, to guarantee profit generation year-round, not just during the academic schedule. Secondly, the Corridor should be a combination of local mom and pop shops and various retail chains to reflect the relationships of the students and local community. The architecture of the Corridor should be modern and up to date with the city regulations of transportation with clearly marked roads and cross walks for pedestrians, bike riders and automobiles. There should be an adequate amount of appealing competitively priced housing. Lastly, the Corridor should be spacious as to not become congested throughout the prime rush hours.

H.2 Recommended Community Plan Policies

The opportunity to plan for future land uses and to develop places that invite social networking on land immediately adjacent to UC Merced presents a unique and valuable opportunity to expand and enhance an innovation hub. A concerted effort to expand and enhance a local innovation hub in Merced, framed by an understanding of the City's strengths and weaknesses, and implemented overtime at a scale and focus suited to the community, can enable the City to maximize the social, environmental, and economic benefits.

Our vision of the *Bellevue Corridor Community Plan* area, consists of research, retail, and residency. It will create an affordable and sustainable community that will generate new ideas. This will bring the town, businesses, and research together creating a unique and distinctive place. These new ideas will strengthen the economy and Merced will become a major city gateway. No longer will UC Merced be isolated from its city.

While the entire San Joaquin Valley and points beyond will benefit from the research, innovation, and new technologies from UC Merced, the local community and development pattern of lands near the university will influence the success of the *Innovation Hub* in Merced. The *Bellevue Corridor Community Plan* can contribute the following:

- Attract new researchers, and sustain current graduates and their research;
- Attract small businesses;
- Identify future sites for research and development parks for UC Merced Spin-Off Development;
- Create a gateway community to UC Merced; and,
- Create a living environment for entrepreneurs and the work force to work, live, and play/network .

H.2.1 A Locally Engaged and Attractive Research University

- Support the development of a premier research university. The university serves as a stepping stone for the student population to begin to become part of the Merced Community and to bring ideas back to the public "innovation realms" that are located in the Bellevue Corridor.
- Attract new researchers and sustain current graduates and their research.

H.2.2 Collaborative Efforts by Industry and University

- Seek and encourage local industries that align with the academic and research focus of UC Merced.
- Support and encourage the development of an "Innovation Institute" for local innovators to help develop intellectual property into tangible products to improve the economic, social, and environmental needs of the community.
- Provide retail and office incubator-spaces for small businesses.

H.2.3 Attract and Retain Entrepreneurs and UCM Graduates

Places to Meet/Network: Some of the most important meetings are spontaneous. Spontaneous meetings occur when paths intersects while traveling from one place to another or standing in line for coffee or lunch. Chance interactions have the qualities of being informative, creative, and social in an important way that reinforces relationships. The Bellevue Corridor should be a place that invites such interactions.

- *Land Uses*: Interactive nightlife comprised of art galleries, live music to showcase local talent, and family outdoor events are primary activities that would be implemented within the Bellevue Corridor to encourage growth and development.
- *Activities*: Support and encourage community-based farmers markets for local farmers and shoppers, hosted by local businesses or other sites in the Bellevue Corridor Plan area.
- *Pedestrian-Related Street Components*: Develop streetscapes with ample amenities such as landscaping, shade trees, generous sidewalks, street furniture, signage, lighting, and art to promote pedestrian movement, community attractiveness, and informal meeting spaces.
  Done right, pedestrian-related street components can spark street-level interaction and maximizes the potential for informal contact of the average person in a given public space at any given time.
- *Scale*: To assure frequent interactions, ensure that pedestrian-scale design exists throughout the plan area, but particularly in highly populated areas.
  At the individual space level, indoor and outdoor spaces will be intimate and active enough to encourage people to meet or stop to engage when they encounter one another. "In the absence of a pedestrian scale, density can be big trouble" -- Jane Jacobs.[3]

Residency: To encourage the flow of ideas, the innovation hub should not only have places to meet, but a population to fill such space. This includes: 1) researchers expanding on current and new research and development; 2) students, both undergraduate and graduate levels; 3) young families seeking new business or research opportunities; 4) anyone willing to embrace a lifestyle of creativity with the incorporation of thoughts inspired by surrounding people; 5) target market solely seeking

products/service from innovation hub; 6) entrepreneurs who have the passion to be an addition to an innovative community; and, 7) small businesses offering a variety of options for the innovative community (restaurants, coffee shops, boutiques, apparel stores, etc.)

- Provide a myriad of housing options, proximate to research, retail, and recreation.
- Develop family-oriented public and private spaces, separate (in time or space) from incompatible entertainment activities (dance clubs, bars, hookah lounges, night-clubs).
- Encourage the siting of student housing adjacent to or in close proximity to UC Merced.
  This supports the efforts of UC Merced to form strong interpersonal bonds within the academic community, which supports interdisciplinary learning, innovation, and knowledge development. It also serves as a stepping stone for the student population to begin to become part of the Merced Community, and brings ideas back to the public "innovation realms" that are located in the Bellevue Corridor.

H.2.4 A Supportive Local Government and Community

- Through interactive activities and programs held within the Corridor, encourage relationships to develop between local Merced residents and UC Merced students.
- Community outreach such as health and education awareness.
- Support and encourage local collaboration between industry, UC Merced, entrepreneurs, and local governments.

Sources

1. Krisztina Holly, *Former Vice Provost for Innovation at the University of Southern California, and Executive Director for the USC Stevens Institute for Innovation.*
2. Tathagat Varma, Sr Director-Business Operations, Yahoo! Software Development India.
3. Wall Street Journal article "For Creative Cities, the Sky Has Its Limit," (July 27, 2012).

CITY OF MERCED | BELLEVUE CORRIDOR COMMUNITY PLAN

PUBLIC REVIEW DRAFT

FINDINGS REPORT

January 23, 2014

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1. INTRODUCTION

This Report summarizes key findings and recommendations from economic, circulation, complete streets, and land use and zoning background reports prepared as part of the Bellevue Corridor Community Plan (BCCP) project. The findings and recommendations herein will serve as a basis for the draft BCCP chapters and the Urban Village Form-Based Code. A detailed description of the BCCP project can be found in the Foundation Report and Draft Introduction Chapter.

Findings and recommendations were drawn from the following reports:

Economic Analysis. This study, prepared by Economic Planning Systems, examines the economic context of the BCCP area, and identifies relevant market, demographic, and real estate trends.

Transit Priority Project & Public Right-of-Way. This study, prepared by Nelson\Nygaard Consulting Associates Inc., analyzes Transit Priority Project (TPP) requirements, planned Transitways, potential service options, and the circulation network and street design.

Complete Streets. This study, prepared by City Staff. This study, prepared by the City of Merced Planning Staff, provides an overview of complete streets, describes a framework applicable to the BCCP, and provides a comparative analysis of existing policies with proposed BCCP complete street policies.

Zoning, Development and Land Use Standards to Implement the Bellevue Corridor Community Plan. This study, prepared by Tony Perez Associates, addresses how the relevant direction in the Urban Design and BCCP sections of the General Plan will be implemented in the BCCP.

2. KEY FINDINGS

2.1. **Regional Market.** The Merced regional market is characterized by continuing weak economic conditions, depressed housing prices, and stressed local government finances. While recent market activity suggests economic recovery, a return to healthy economic conditions is likely to be gradual.

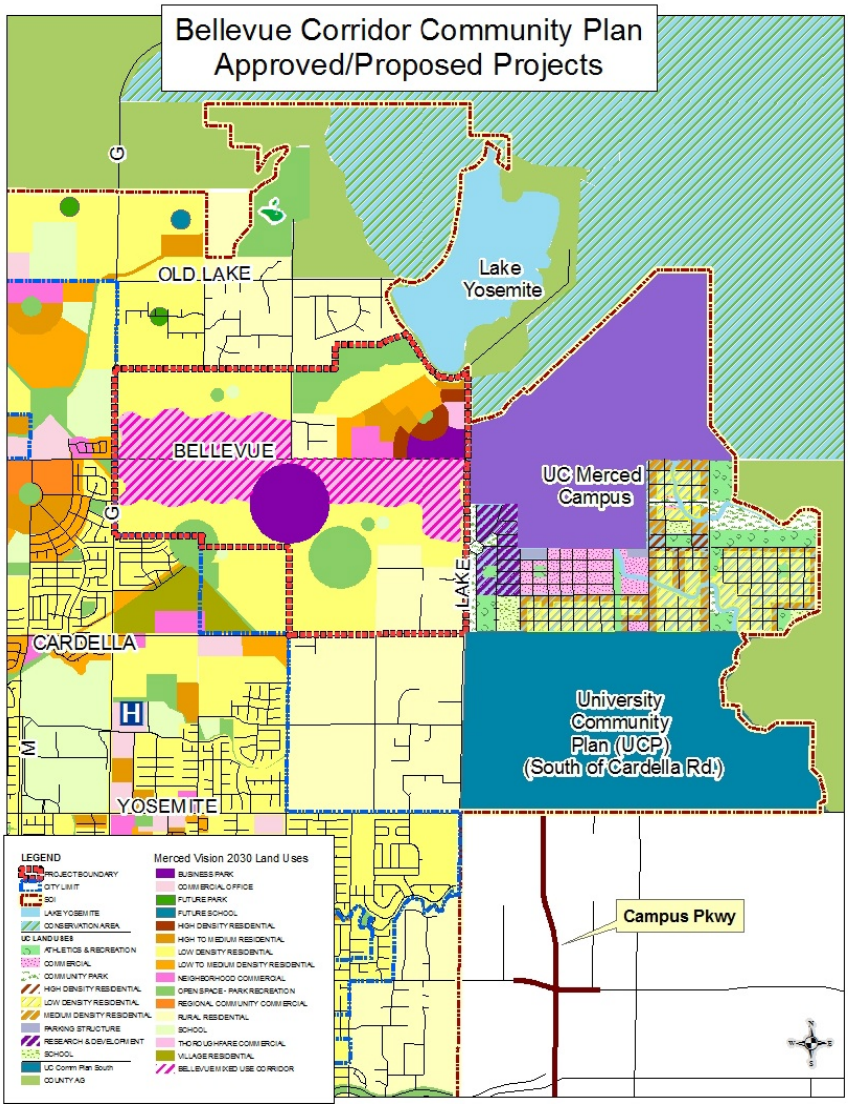
2.2. **Demographics.** Recent statewide and regional growth forecasts indicate a wide range of potential future population growth scenarios (from 45,000 (Woods & Poole Economics, Inc.) to 160,000 (Merced County Association of Governments) by 2030) for Merced County, suggesting a high level of uncertainty associated with the type and amount of new real estate development.

2.3. **Development Capacity.**

Planned Development. During the past several decades, the City has entitled and planned for a substantial amount of new development within its Sphere of Influence; other nearby jurisdictions have also created significant development capacity. There are over 21,000 housing units and over seven million square feet of office and commercial uses in approved plans and projects within, adjacent to, or near the BCCP, This includes the University Community Plan, which encompasses almost 2,000 acres including parks, schools, and streets. The Plan calls for over 11,000 residential units, 1.4 million square feet of commercial (office and retail), and 2.3 million square feet of R&D. In the Project Description in the EIR for UC Merced and the University Community Project, the

University Community is divided into the Community North (about 800 acres), which is covered by the EIR, and the Community South, which is not covered by the EIR.

Map of Approved Plans and Projects Near the BCCP (from the City of Merced)



List of Approved Plans and Projects Near the BCCP (from the City of Merced)

PLANS AND PROJECTS	Detached			Attached			Office [3]		Commercial	
	DU	Acres	Density	DU	Acres	Density	Sq.Ft.	Acres	Sq.Ft.	Acres
Bandoni Sunset GP[8]	45	4.5	10	810	45	18	0	0	313,000	20.5
Bright Homes Map	168	39.8	4.2	0	0	0	0	0	0	0
Guardanapo GP	306	56	5.5	216	17.6	12.3	196,000	18	0	0
Bellevue Ranch [1, 5, 7]	4,533	896	4.5	1,216	76	16	501,000	23	1,403,000	92
Mercy Medical Center (MMC) [6]	0	0	0	0	0	0	600,000	17	0	0
Mercy Cancer Center	0	0	0	0	0	0	12,730	1.7	0	0
Merced Pavilion (MOB)	0	0	0	0	0	0	65,500	0.5	0	0
Future MMC Expansion	0	0	0	0	0	0	200,000	10	0	0
Moraga Map	520	102	5	0	0	0	0	0	0	0
Palisades Park Map	155	48.9	3.2	0	0	0	0	0	0	0
Paseo Map and GP	6	0.8	8	85	8.5	10	0	0	39,400	8.5
Vista Del Lago	58	75.7	0.8	0	0	0	0	0	0	0
West Hills Estates Map	26	30.4	0.9	0	0	0	0	0	0	0
Yosemite Lake Estates	1,388	278	5	0	0	0	0	0	15,000	6
University Community										
Towncenter - Mixed Use Area [4]	0	0	0	540	N/a[8]	N/a[8]	313,600	7.5	183,000	7.5
Towncenter - Other Areas	0	**0**	0	1,418	45	30	292,700	5	130,700	8
Research and Development Use							2,308,300	71		
Other UCP Areas [2]	7,385	890	8.3	2,274	85	26.8	140,000	9	328,400	21
Total	**14,590**	**2,422**	**6.0**	**6,559**	**277**	**23.7**	**4,629,830**	**163**	**2,412,500**	**164**

Notes:
1. Includes all existing and planned amounts.
2. Data extrapolated from 2009 EIR/EIS for the 2009 UCM LRDP & UCP, Table 2.0-6, Page 2.0-41.
3. As a unique use, the *Research and Development Use* is "called-out" under the Office Category. The R&D site is located west of the Town Center.
4. These amounts are in addition to "Towncenter-Other Areas" and "Other UCP Areas". The 15-acre area is divided bewteen office and commercial uses.
5. Includes 2529 "detached standard" units (562 ac) and 2004 "detached patio" units (334 ac) at density of 4.5 and 6 DU/acre respectively.
6. Currently at 260,000 sq. ft., long-term 600,000.
7. A FAR of 0.5 was used to estimate future office use, and a FAR of 0.35 was used for commercial. (In other cases, acreage based on submitted plans/documents.)
8. Part of 15 acre mixed use area. Acreage included under Office and Commercial.

2.3.1. Factors and Limitations. Development cannot be realized without substantial investments in infrastructure, including expanded utility capacity and major transportation system improvements, as well as environmental clearance. Fiscal and institutional factors will also influence the location and timing of new development and associated infrastructure. Scarce funding resources and depressed housing prices constrain development-based financing. The County's jurisdiction in the area limits ability of the City to extend municipal services. City annexation of the BCCP area will require LAFCO approval and likely a tax sharing agreement.

2.4. Impact of UC Merced. UC Merced is anticipated to drive growth proximate to the campus, supporting levels of absorption and density that may not be achievable elsewhere in the County. Areas proximate to the campus are likely to support more dense development patterns, especially for sites that are easily accessible (walkable). UC-related development adjacent to the campus will be governed by the manner and pace in which UC programs grow.

UC Merced and the surrounding districts could evolve into an innovation hub. As research advances and technologies become commercial, UC programs will "spin-off" economic activity. The degree of technology transfer, independent enterprise, and space demand is unknown.

2.5. Development Competition. The timing and share of market demand captured by the BCCP will depend on how a range of highly uncertain economic and institutional factors unfold over time.

2.5.1. Citywide Competitive Advantages. While the City competes with other locations in Merced County and the broader San Joaquin Valley for jobs and associated commercial real estate development, it maintains a number of competitive advantages that make it well positioned to capture a disproportionate share of growth. These advantages include:

- Growth associated with UC Merced;

- Planned high-speed rail station;
- Downtown core, retail, and other amenities;
- Existing municipal sewer and water infrastructure and associated operations, maintenance, and financing options; and
- The City's location at the gateway to Yosemite.

2.5.2. BCCP Area Competitive Advantages. While the Bellevue Corridor likely to face direct competition from other areas planned for development within and outside the City's Sphere of Influence, including the University Community, it is well positioned for growth due the following factors:

- The BCCP creates the opportunity to absorb UC Merced-related uses, without a "leap-frog" development pattern;
- The BCCP area is large enough to accommodate a diversity of urban uses;
- A number of large parcels are adequately sized for development without assembly;

2.5.3. Infrastructure. While both the planned University Community and the Bellevue Corridor will need to resolve a number of infrastructure and institutional issues before development can occur, Bellevue appears to have a competitive advantage in this regard. Bellevue benefits from existing infrastructure (water and sewer are in place, though upgrades are needed). Depending on how a number of institutional and infrastructure issues are resolved, the Bellevue Corridor appears well-positioned to capture a portion of the regional growth currently designated to occur on the University Community plan area.

2.6. Planned Circulation Network.

2.6.1. Street Types. The General Plan describes street types and corresponding designs for the City. The relative street types include Arterials, Collectors, Locals, and Transitways. Bellevue Road is a planned Arterial.

2.6.2. Arterial Grid. The planned arterial street grid network described in the Merced General Plan would distribute nearly all traffic through a grid of arterial streets placed one mile apart. As planned, the high volume of traffic on arterials may not be conducive to creating walkable, "complete streets" bordered by transit-supportive land uses.

2.6.3. Transitway Corridors and Hubs. The Transitway Corridors as planned in the General Plan are M Street and Bellevue Road/Atwater Merced Expressway (transit passengers would transfer between M Street and Bellevue/AME buses at a transit center at the intersection of M Street and Bellevue Road). The travel distance between Downtown Merced and UC Merced based on this alignment is seven miles with a typical transit travel time of 26 to 35 minutes. Several transit stations or hubs have also been identified including, (1) the UCM transit hub near Lake Road, ¼ mile south of Bellevue Road, (2) the Bellevue Ranch transit hub, on M street just south of Bellevue Road, and (3) the high-speed train station in downtown Merced near M and 16th Streets.

2.6.4. Regional Loop System / Expressways. The proposed regional loop system, which would connect Bellevue Avenue and the Atwater Merced Expressway with Campus Parkway and a potential

southern extension across Highway 99, may challenge the idea of creating a TPP on Bellevue Avenue within the study area. Regional expressways tend to encourage lower-density development patterns and can discourage adjacent residential development (within a half mile), thus potentially not supporting a TPP corridor along Bellevue Road.

2.6.5. **Complete Streets Benefits.** Access to public space is critical to safe, healthy, and prosperous communities. Successful implementation of a comprehensive *complete street* program can accomplish numerous public benefits including: support for existing businesses, reduced public and private costs, business attraction, increased development potential, reduced air pollution and greenhouse gases, reduced traffic collisions, provision for safe routes to school; health benefit, and increased mobility options for all, notably those unable to drive.

2.6.6. **The California Complete Streets Act (AB 1358).** This laws states in part, **"**Commencing January 1, 2011, upon any substantial revision of the circulation element [this would include adding a circulation element to a community plan] , the legislative body shall modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan."

2.6.7. **Foundational Goals and Policies**. The City's General Plan envisions that all streets should be designed as "Complete Streets" which address all modes of motorized and non-motorized transportation, including vehicles, transit, pedestrians, and bicycles. These goals and policies form a foundation upon which to design, build, and construct complete streets within the Bellevue Corridor Community Plan.

2.6.8. **Bellevue Corridor Community Plan (BCCP) Circulation.** The *Merced Vision 2030 General Plan* and public comments gathered during the community outreach efforts of the BCCP are the cornerstones that define the vision of the BCCP. The overall vision for circulation is to provide multi-modal transportation system throughout the planning area for use by vehicles, pedestrians, bicycles, and public transit, consistent with the principles of the General Plan's Urban Design Chapter. These principles emphasize planning, design, and construction for all modes in a manner that results in high usage levels. As such, roadways are treated as the essential element in the urban fabric that *connects* rather than *separates* neighborhoods located on opposite sides of a road. Separation of neighborhoods typically occur when road planning, design, and construction focuses primarily on vehicular travel, to the detriment of other travel modes.

2.6.9. **Placemaking.** Streets comprise a large portion of publicly owned land in cities and towns. Streets are a huge part of any community's public space network, and historically served as meeting places, playgrounds for children, marketplaces, and more. As populations spread out from city centers, most American cities have come to view streets primarily as conduits for moving vehicles from one place to another. While moving vehicles is one of their purposes, streets are spaces, even destinations in and of themselves, for example, the intersection of Canal Street and Main Street (Bob Hart Square) in downtown Merced.

2.7. **Future Traffic Volumes.** Traffic volumes on planned arterials based on buildout described by the General Plan are as follows for the BCCP:

Bellevue Road. The forecasted traffic volume for Bellevue Road is between 50,000 and 60,000 vehicles per day within the BCCP area. This volume of traffic typically requires a six-lane configuration (up to eight lanes in some cases) in an Expressway or Major Arterial alignment in order to satisfy level-of-service standards.

Cardella Road. The forecasted traffic volume for Cardella Road is between 30,000 and 40,000 daily vehicles. This volume of traffic typically requires a four-lane configuration.

G Street. The forecasted traffic volume for G Street is over 30,000 vehicles per day. This volume of traffic typically requires a four-lane configuration.

Gardner Road. The forecasted traffic volume for Gardner Road is just over 30,000 vehicles per day. This volume of traffic typically requires a four-lane configuration.

2.8. Transit Priority Projects.

2.8.1. Definition. Transit Priority Areas were introduced in California's Senate Bill 375, which was intended to align regional transportation, land use, housing and greenhouse gas emission reduction planning. Transit Priority Projects (TPPs) are housing or mixed-use residential projects with 20 dwellings per acre or more that are located within a Transit Priority Area and meet the following criteria:

- Contain at least 50 percent residential use. If non-residential uses are between 26 and 50 percent, a floor area ratio (FAR) of not less than 0.75 is required.
- Minimum net density of 20 dwelling units per acre.
- Located within one half mile of either a major transit stop or high-quality transit corridor included in a regional transportation plan, with service intervals of not less than 15 minutes during peak hours.

2.8.2. Transit-Adjacent vs. Transit-Oriented Development. The intent of a TPP is to encourage transit-oriented development (TOD). However, the creation of truly transit-oriented land uses along transit corridors can be a challenge and often results in transit-adjacent development (TAD) that is not truly transit oriented.

TOD is characterized by land use patterns that are oriented to maximize access to transit stations within a half-mile radius (a ten-minute walk). Characteristics include: a grid street pattern, high densities, mostly underground or structured parking, pedestrian-focused design, bicycle access and parking, multi-family homes, office an retail land uses (especially along main streets), vertically and horizontally mixed land uses, and stores and local-servicing land uses designed for pedestrian access. Older segments of Merced's street network were developed with land uses oriented toward adjacent streets, a desirable trait for promoting TOD.

TAD is characterized by land use patterns within a half-mile radius of a transit station that do not use the proximity to transit to promote compact, focused development that fosters multimodal transportation. Characteristics include: a suburban street pattern, low densities, dominance of surface parking, limited or no pedestrian access, single-family homes, industrial land uses, segregated land uses, and gas stations, car dealerships, drive-thru stores and other auto-focused land uses. Newer segments of the M Street Transitway Corridor have been developed with characteristics of TAD. Land uses are internally oriented with sound walls separating the transit corridor from adjacent residences.

2.9. Urban Village Concept. The Urban Village is essentially a neighborhood with high connectivity and internal variety that are served by some type of commercial area The Urban Village includes an "Inner

Village" which contains the most intense housing in the neighborhood along with any civic, commercial or retail businesses, as well as an "Outer Village" that contains the least intense housing in the neighborhood any parkland and schools.

2.10. **Open Space.** The General Plan establishes an integrated framework of open spaces. Chapter 7 'Open Space, Recreation and Conservation' identifies eight types of park space ranging from Mini-Parks and Neighborhood Parks to Athletic Parks and Linear Parks.

2.11. **Urban Design Guidelines.** The General Plan provides design guidelines for the following:

Street Design. This includes guidance on a variety of subjects including commercial streets to street vistas, street trees, pedestrian routes, and bike parking.

Commercial Areas. This addresses parking lots, architectural character, landscaping, Center configuration, building setbacks, and upper story uses in Centers.

Residential Areas. This addresses the appearance of single- and multi-family housing types including building entries, garages, facades, building setbacks and heights.

Overall Community. This addresses a wide variety of subjects aimed at enhancing Merced's identity as a community.

3. RECOMMENDATIONS

3.1. **Plan Name.** If the BCCP continues using 'Corridor' as an implementation term as described below, the Plan name should be changed from Bellevue *Corridor* Community Plan to Bellevue Road Community Plan or another acceptable name.

3.2. **Circulation Network.**

3.2.1. **Traffic Dispersal Strategy.** As part of the BCCP effort, the City should consider a dispersal strategy within the BCCP area. For example, creation of a half-mile grid of mixed-use collector streets to augment the one-mile grid of arterial streets to help disperse traffic that would access potential mixed-use development and reduce volumes on the adjacent arterials.

3.2.2. **Recommended Elements of the BCCP *Complete Street* Program.** *Complete-stree*t approaches and designs to be used when crafting prescriptive right-of-way cross sections and design templates for Plan streets and adjacent public and semi-public spaces should consider: street networks and road classifications, traveled way design, intersection design, pedestrian design, bikeway design, transit accommodations and placemaking.

3.2.3. **Apply the Grid Street Network.** The chosen street network design of a city is a significant factor in determining whether the environmental, social, and economic needs of its residents can be met. A street network can foster or constrain economic and social activity, enhance or limit social equity in ability to travel and provide or negate a setting for high quality design at all scales: building, neighborhood, and region.

3.2.4. **Road Design is Land Use Design.** The design of the road is critical to the design of the entire street right-of-way because it affects not just the users in the road, but those using the entire right-of-way, including the areas adjacent to the street. This in turn affects the design and vitality of the adjacent land uses. Select the best right-of-way to support and enhance the desired land uses.

3.2.5. Boost Bicycle Usage. Bicycle infrastructure should use planning and designing options, from shared roadways to separate facilities, to accommodate as many user types as possible and to provide a comfortable experience for the greatest number of cyclists.

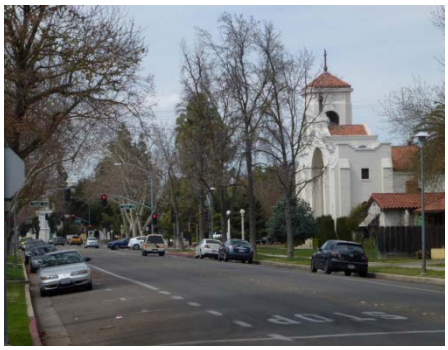
3.2.6. Use the Road to Create Special Places for People to Gather. Within the plan area, identify road segments and/or intersections that can also be public spaces, places that offers greater value to pedestrians, bicyclists, and transit riders, and which create a unique site for business and community events.

3.2.7. Benchmark and Performance Measures. Conventional street design applies auto-centric performance measures. The most common is the Level of Service (LOS), which seeks to maintain flow of vehicles and leads to widening streets and intersections, removing on-street parking, and other strategies to accommodate the flow of traffic. These techniques undermine the goals and tenets of complete streets. To meet the goals and tenets of complete streets, the BCCP plan should adopt additional benchmarks and performance measures.

3.2.8. Boulevard. A variation of the boulevard configuration, including on-street parking, could be considered as part of a complete street strategy for Bellevue Road.

3.2.9. Mixed-Use Collector. The City should consider introducing a "mixed-use collector" street type that allows on-street parking, shorter distances and less setbacks from the sidewalks. The provision of collector streets within the BCCP area can help to reduce traffic volumes on portions of Bellevue and Cordella, creating a half-mile grid of arterial and mixed-use collectors within the Plan area to better disperse future traffic growth and allow for narrower street types (including narrower arterial streets), more conducive to pedestrian circulation. Mixed-use collectors can be modeled after existing, walkable "complete street" segments in Downtown Merced.

Mixed-Use Collector Prototypes: Downtown Merced



3.2.10. Transitway Corridors. The UC Merced campus is a key transit trip attractor with a transit hub near Lake Road about ¼ mile south of Bellevue Road. With this in mind, the City should plan as direct a transit corridor as possible between UC Merced and Downtown Merced, and/or the potential high speed rail station and include:

- A Transitway corridor for BRT with dedicated bus lanes between Downtown and UC Merced via M Street or G Street; or

- A Transitway corridor for RBS with shared travel lanes on the Bellevue Road/Atwater Merced Expressway (AME).

3.3. Transit Priority Projects.

3.3.1. Development Standards Implications. The TPP requirements should be implemented through standards for the blocks within a half-mile of a major transit stop once those areas are identified in the vision for the BCCP.

3.3.2. Transit Options. Bus Rapid Transit and Rapid Bus Service are potential transit options for the BC. On some corridors, RBS can achieve similar travel time savings as could be achieved with dedicated bus lanes, with substantial cost savings. This may be a viable option for the Bellevue Road and AME segments.

3.4. Blocks.

3.4.1. Walkable Block. The term 'walkable block' should refer to blocks that are not large and do not favor vehicles to the exclusion of pedestrians. A walkable block is typically up to 600 feet long in any direction and has pedestrian-oriented streetscapes with vehicular speeds that are typically less than 35 miles per hour. If speeds need to be higher, such as along a Boulevard, the street is designed to be in balance with the pedestrian activity expected along its edges. Block sizes within the BCCP area should range from 200 to 600 feet.

3.4.2. Blocks System. Using a system of flexible blocks allows an owner to map out a preferred pattern that can be adjusted as needs or priorities change while still adding up to a coherent pattern of land uses. Mapping out the potential blocks on a property enables an owner to move forward with different areas of the property while knowing generally how each portion will connect and make sense with the rest. The mapping of blocks only becomes official when a subdivision is approved. Through this approach, there is less need to map blocks and lots prematurely. In addition, using this approach will help when the market is changing for other types of development that were not anticipated when drafting the BCCP and standards.

3.4.3. Retail and Business. Implementation standards should generate blocks and streets that are conducive to retail and business environments which may also need large parking areas while connecting with adjacent neighborhoods.

3.5. Land Uses.

3.5.1. Mix of Uses. The BCCP should include a mix of uses: residential, retail, office, research and development (R & D)/flexible space.

3.5.2. Ability to Adapt to the Market. Knowing that land use demand will change over time, the BCCP should identify the sizes of buildings that are expected and then accommodate not require a variety of land uses that may be in demand over the long term. Then, the BCCP code should provide standards that identify the maximum sizes of buildings (in stories and length, not FAR) depending upon their location and adjacencies along with a set of allowable land uses so that the owner has flexibility on to occupy the building over time.

3.5.3. R & D/Flexible Space. Planning for 2.5 to 5 MSF R&D/flexible space around UC Merced would be aggressive but also allow for "upside potential".

3.6. Organizing Components. The Urban Village concept described in the General Plan is best implemented using traditional city environments: Centers, Neighborhoods, Districts, and Corridors.

3.6.1. Centers. Centers are concentrations of non-residential and residential activity such as retail, office and service commercial with housing that is more intense than the housing in Neighborhoods or along corridors. The main purpose of Centers is to provide the focal points of business, housing, and civic activity that serve a variety of needs. Centers are sometimes located in geographically central locations but are typically located between Neighborhoods along key streets or at the edges of Districts and along Corridors.

The recommended Regional, Community and Neighborhood Center types described below modify and build upon the Center concepts described in the General Plan. A Regional Center type should be added and the Community Center type should be merged with the Neighborhood Center to provide flexibility to respond to the changing retail industry. Additionally, the minimum acreage requirements are modified based on the trend toward smaller stores in the retail industry.

3.6.1.1. Center Types.

Regional. Regional Centers contain retail and service businesses that attract customers from the region. This typically includes anchor stores that have the widest trade area of stores in Merced. A planned Regional Center is centered 0.5 miles west of the intersection of Bellevue Road and "G" Street.. Regional Centers should be a minimum of 20 acres for the Center and a minimum of 20 acres for urban residential for a total required minimum size of 40 acres.

Community. Community Centers contain retail and service businesses aimed at the greater Bellevue area. This typically includes a supermarket, pharmacy, ancillary retail, professional office, junior anchor stores, and health clubs. Community Centers should be a minimum of 20 acres for the Center and a minimum of 10 acres for urban residential for a total required minimum size of 30 acres.

Neighborhood. Neighborhood Centers contain retail and services aimed at the nearby Neighborhoods. This typically includes a supermarket, additional anchor, major ancillary retail, and provisional office. The Neighborhood Center should also incorporate the Convenience Center type as described in the General Plan, which was intended to include a convenience mini-market with some ancillary retail. Neighborhood Centers should be a minimum of five acres for the Center and a minimum of 10 acres for urban residential for a total required minimum size of 15 acres.

3.6.1.2. Characteristics.

Components. Centers consist of interconnected, walkable blocks of commercial or mixed uses. The second component of each Center is the immediately adjacent area that typically focuses on more intense residential or mixed-use residential (generally the Urban Residential Neighborhood type as described below.

Location and Layout. Centers are located adjacent to the intersection of a collector or side street and a major arterial while the Urban Residential Neighborhood areas are located further into the site, away from the major arterial but with high interconnectivity to the Center. It is essential that the commercial and retail space be visible to and accessible by

community-wide traffic. Some of the commercial buildings should be located along the arterial to shape the streetscape while providing strong views of the parking for larger tenants farther from the arterial.

To create connectivity, side streets should be inserted into the larger shopping center pattern to break up the mass of buildings, promote walking from adjacent neighborhoods and generate an appealing physical character.

The land for each Center should be as efficient as possible so as not to result in physical separations that waste land and to create positive adjacencies with neighboring residences.

Flexible Buildings. The development standards should provide a variety of flexible building types, rather than conventional zoning requirements, to address the wide range of uses (including civic) in Centers and as the way to realize commercial space. The standards should offer a variety of compatible building sizes that can be adjacent to each other and still generate an appealing physical character. The standards should require connectivity along the streetscapes adjacent to facades instead of cutting up a development site with unnecessary and poorly visible pedestrian-only pathways.

3.6.2. Neighborhoods. Neighborhoods are primarily residential areas consisting of a variety of housing choices. Neighborhoods will comprise most of the area and will be shaped by Centers, Districts and Corridors. There are three types of neighborhoods: Urban Residential, Neighborhood Residential, and Rural Residential. The appropriate neighborhood type depends on factors such as location, role and intensity. Different neighborhoods can and should be located next to each other for variety, flexibility and adaptation to changing conditions.

3.6.2.1. Types

Urban Residential. This is the most intense of the neighborhood types. Housing typically ranges from rowhouses to courtyard apartments to dense apartment buildings in a variety of sizes. Mixed-use activity typically occurs in the transitions between this neighborhood type and adjacent Districts, Corridors or Centers. Urban Residential streetscapes are typically shaped by narrow, tree-lined streets with on-street parking and short front yards, and entries to buildings directly from the front yard.

Neighborhood Residential. This is the typical neighborhood type with housing types ranging from single-family houses to a variety of house-form multi-family buildings such as duplexes and quadplexes. Neighborhood Residential Streetscapes are typically shaped by tree-lined streets with on-street parking and a variety of moderate to large front yards and entries to buildings directly from the front yard.

Rural Residential. This is the least intense of the neighborhood types and housing typically ranges from single-family housing in agricultural settings to single-family houses in rural settings. Rural Residential streetscapes are typically shaped by natural features with a rural character along both sides of streets and large yards around all sides of buildings.

3.6.2.2. Characteristics

Components. Each neighborhood consists of interconnected, walkable blocks.

Building Type. The primary building in Neighborhoods is the house and its various multi-family versions. Some Urban Residential Neighborhoods will have house-form buildings and larger, denser residential or mixed-use buildings.

The house-form range of building types that is most appropriate based on location, role, and overall intensity should be applied. The ability of the house-form range to adapt to the three neighborhood environments inherently provides for a realistic variety of housing choices and allows each neighborhood to adjust to its setting with flexibility and predictability.

3.6.3. Districts. Districts are areas with a unique size or function, typically as R & D or light industrial.

3.6.3.1. Types

Research and Development. These Districts are typically high in proportion of employees to building area and may have outdoor areas for activities such as light assembly and testing.

Light Industrial. These Districts are typically low in proportion of employees to building area and have large outdoor areas for activities such as assembly and testing.

3.6.3.2. Characteristics

Components. Each District consists of interconnected, walkable blocks that are large enough to accommodate the large size of buildings associated with the unique activities of the Districts. Blocks are not as interconnected as in other areas of quadrants but are connected to adjacent blocks and their environments.

Streetscapes. District streetscapes are typically shaped by tree-line streets with on-street parking and short front yards or commercial shopfronts along the sidewalk with entries to buildings directly from the sidewalk.

Buildings and Adjacencies. The primary buildings in Districts are the largest of buildings in the BCCP. These block-form buildings are sometimes located within the middle of a site but often are toward the street behind a front yard or commercial shopfront to emphasize space at the rear of sites for maneuvering of vehicles and equipment.

Adjacent Neighborhoods are buffered by streetscapes that serve as a physical transition between large office and light industrial buildings on one side of a street to larger residential building such as those in the Urban Residential Neighborhood type. Alternatively, transitions can be made at the rear of a District and the rear of a Neighborhood type, but this puts more focus on the need for compatibility between outdoor activities on both sides of the boundary.

Where Districts are immediately adjacent to a major thoroughfare, buildings are oriented to front on the thoroughfare or at least orient a side of the building along the thoroughfare to shape and provide identity to the streetscape.

3.6.4. Corridors. The term 'Corridor' refers to the land on both sides of a major thoroughfare but only for the half-block or lots fronting the thoroughfare. The main purpose of a corridor is to function as the segment of development and activity between major components such as Centers and Districts and to buffer Neighborhoods from major thoroughfares.

3.6.4.1. Types

Urban. These Corridors are typically the Urban Neighborhood Residential environment adjusted for office and housing along major thoroughfares. Urban Corridor streetscapes are typically shaped by tree-lined streets with on-street parking and a variety of modest front yards. Where office activity is included, ground floor commercial shopfronts along the sidewalk provide entries to buildings directly from the sidewalk.

Neighborhood. These Corridors are typically the Neighborhood Residential environment adjusted for the type of housing appropriate along major thoroughfares. Neighborhood Corridor streetscapes are typically shaped by tree-lined streets with on-street parking and large front yards with entries to buildings directly from the front yards.

3.6.4.2. Rural. These Corridors are typically the Rural Residential Neighborhood environment adjusted for interface along major thoroughfares. Rural Corridor streetscapes are typically shaped by the natural or rural character along both sides of streets and a variety of the largest front yards in the Plan area.

3.6.4.3. Characteristics

Components. Each Corridor consists of lots that face each side of the major thoroughfare connecting directly to the adjacent blocks in Centers, Neighborhoods, or Districts.

Buildings and Adjacencies. Buildings in Corridors are primarily a variety of house-form and block-form buildings that are in keeping with the intended physical character of a Corridor segment. Adjacent areas and buildings are typically buffered by physical transitions in building scale and massing along the side and rear boundaries of Corridor lots.

3.7. Open Space. Upon establishing the intent and role of each quadrant in the BCCP, the corresponding range of appropriate open space types as described by the General Plan will be identified for adjustment to each environment within Centers, Neighborhoods, Districts and Corridors.

3.8. Scale, Interconnectivity and Compatible Adjacencies. The issues of scale, interconnectivity and compatible adjacencies should be addressed in the standards. We recommend using an approach that identifies the range of building types and sizes for the various types of Centers, Neighborhoods, Districts and Corridors. This information can be adjusted for each location and translated into clear development standards for each implementing zone.

3.9. Building Size and Intensity. Using a scale of size and intensity that sorts buildings into two categories (Block-Form and House-Form), the appropriate buildings and sizes can be identified for each environment. Buildings in Centers, Districts and Corridors fall into mostly the Block-Form category with some House-Form buildings. Buildings in Neighborhood areas fall entirely into the House-Form category.

REPORT 1:

Economic Analysis for the Bellevue Corridor Community Plan

MEMORANDUM

To: Lisa Wise Consulting

From: Jason Moody, Walter Kieser, and Ben Sigman

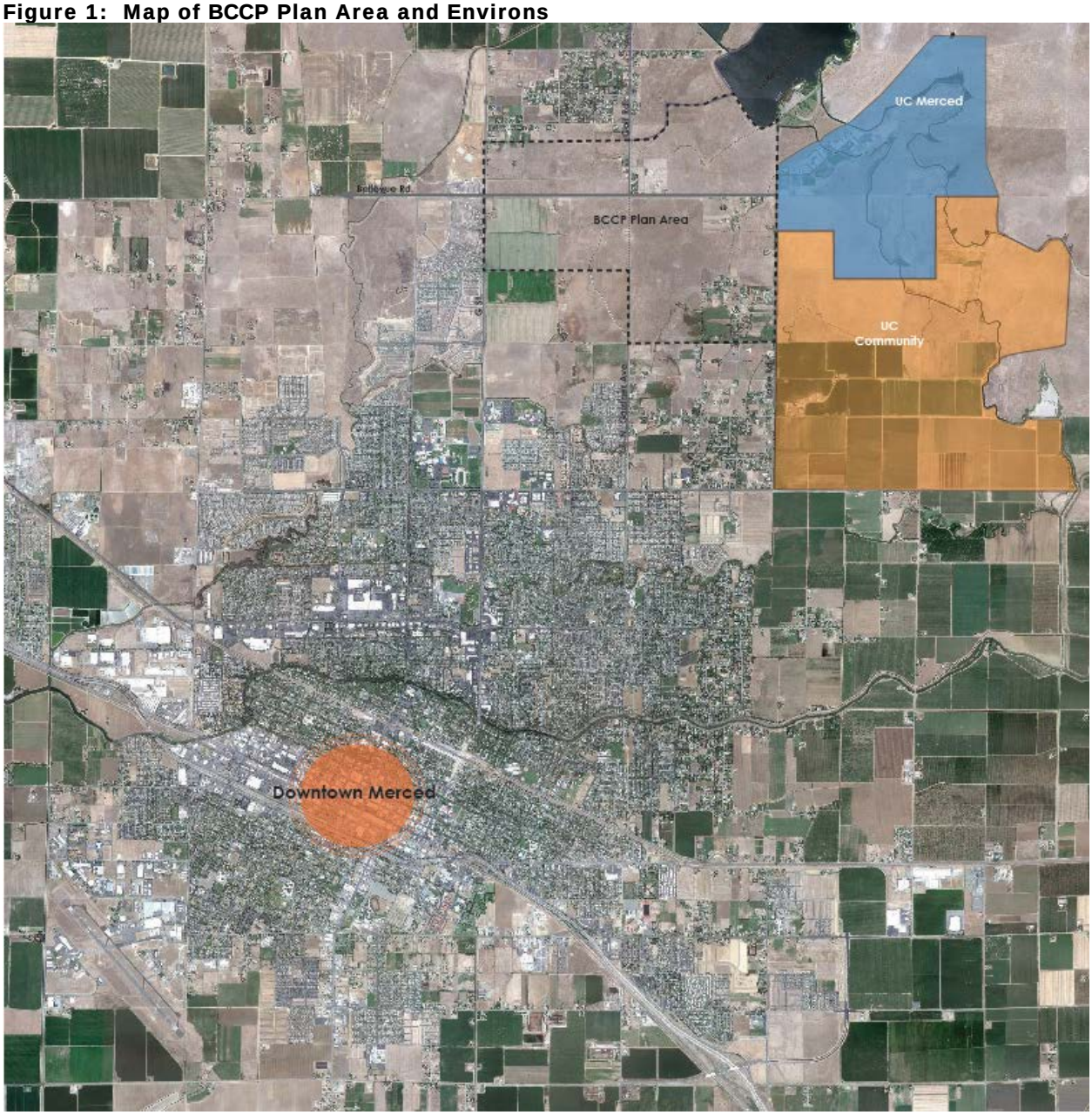
Subject: Economic Analysis for the Bellevue Corridor Community Plan; EPS #21139

Date: January 18, 2012

The City of Merced has retained a planning team led by Lisa Wise Consulting (LWC) to prepare the Bellevue Corridor Community Plan (BCCP). As a part of this team, Economic & Planning Systems, Inc. (EPS) is tasked with providing an assessment of real estate market conditions affecting development feasibility. This memorandum provides our assessment, including a general background on existing market conditions, future growth prospects, and supply and demand dynamics. Following consideration of this market assessment, EPS will work with the BCCP team to prepare recommendations concerning specific development opportunities and strategies for the Bellevue Corridor.

The Bellevue Corridor is located northeast of the City of Merced, roughly five miles from downtown Merced and Highway 99. As illustrated in **Figure 1**, the BCCP Area is located between G Street and the University of California, Merced (UC Merced) campus, within unincorporated Merced County. With the exception of the UC Merced campus, the Bellevue Corridor is presently characterized by rural residential and agricultural uses, though nearby areas within the City boundary exhibit suburban residential development patterns and some commercial uses. The Plan area is located within the City's Sphere of Influence and is considered for urban expansion by the City's General Plan.

Figure 1: Map of BCCP Plan Area and Environs



Sources: LWC and City of Merced

Key Findings Concerning Economic Context

1. ***Consideration of an appropriate land use program for the Bellevue Corridor occurs within a regional market context characterized by continuing weak economic conditions, depressed housing prices, and stressed local government finances.***

While recent market activity suggests economic recovery, a return to healthy economic conditions is likely to be gradual.

The Great Recession continues to have a profound effect on real estate market conditions in the San Joaquin Valley, including Merced County and the City of Merced. The San Joaquin Valley remains one of the most severely affected regions in the United States in terms of foreclosures, "up-side down" properties, construction industry contraction, and unemployment. Merced County, in particular, has been hard hit. In 2010, for example, residential foreclosures as a share of total housing units was greater in Merced County than any other county in California, one of the hardest hit states in the nation.[1]

Weakness in the residential market remains a persistent and harmful drag on the Merced economy. Currently, home pricing remains below construction cost for most product types and homebuilders are unable to compete with existing re-sale properties available in the marketplace. Specifically, after City of Merced single-family residential prices peaked at more than $230 per square foot in 2005, values plummeted to roughly $60 per square foot in 2009, and have hovered in the $60 to $70 range since. Price recovery is likely to be slow, with substantial existing "latent supply" associated with bank-held properties, speculative ownership, and pending foreclosures coming to market in the future. While there was virtually no new residential construction in Merced in 2009 and 2010 (building permit activity dropped to nearly zero), permitting did pick up in 2011.

2. ***Recent statewide and regional growth forecasts indicate a wide range of potential future population growth scenarios for Merced County, suggesting a high level of uncertainty associated with the type and amount of new real estate development.***

Demographic forecasts for Merced County vary widely by source, ranging from a high of 160,000 to a low of 45,000 new residents by 2030. While recent private forecasts indicate the county might grow by 45,000 between 2010 and 2030, the Merced County Association of Governments projection is for nearly 160,000 new residents over the same time period. Meanwhile, California's most recent Department of Finance forecast indicates that the population of Merced County will increase by about 100,000 between 2010 and 2030, consistent with recent projections prepared on behalf of the eight San Joaquin Valley regional planning organizations. Taken as a whole, these projections reveal that actual growth depends on a number of variables that are difficult to predict with a certainty at this time.

3. ***During the past several decades the City of Merced has entitled and planned for a substantial amount of new development within its Sphere of Influence; other nearby jurisdictions have also created significant development capacity.***

In Merced, as is the case in most other San Joaquin Valley jurisdictions, planned development capacity greatly exceeds short- and, in many cases, long-range development forecasts. While the recently-adopted update of the City of Merced General Plan reduced previous development capacity, substantial development capacity remains available.[2] By

[1] RAND California; DataQuick; US Census Bureau; and EPS.

[2] Merced Vision 2030 General Plan includes a combined SUDP/SOI that is slightly smaller than the 1997 SOI.

way of example, a reasonable estimate of development capacity within and near the BCCP Area, even after recent reductions, suggests planned and approved projects to the northeast of the City could generate about 21,000 housing units and 7 million square feet of non-residential real estate.[3]

4. ***Merced's planned development capacity cannot be realized without substantial investments in infrastructure, including expanded utility capacity and major transportation system improvements, as well as environmental clearance.***

   In the context of relatively unconstrained land supply, development and absorption of particular areas or at specific sites will depend on availability of infrastructure, including utility capacity (e.g., sewer and water) and transportation improvements. Much of the entitled land both within and outside the City of Merced's Sphere of Influence does not have the level of infrastructure needed to accommodate planned of approved growth. In addition, development in many of the areas planned for expansion (or the infrastructure needed to serve these areas) still needs to obtain a variety of environmental clearances (e.g., CEQA/NEPA, ESA).

5. ***Fiscal and institutional factors will also influence the location and timing of new development and associated infrastructure.***

   Although the Bellevue Corridor is within the City's Sphere of Influence, the County's jurisdiction in the area limits the ability of the City to extend municipal services and infrastructure to new development. City annexation of the BCCP area will require approval by the Merced LAFCO, and likely the negotiation of a new property tax-sharing agreement with the County (without such an agreement the City will not receive property taxes from the area). Moreover, the persistence of depressed housing prices continues to make the development-based financing that historically provided funding for needed infrastructure much more constrained and challenging.

   Even regional-serving beneficial projects are proving difficult to fund, due in part to increasing conflict and tension between local jurisdictions as they compete for scarce fiscal resources. By way of example, the Atwater/Merced Expressway Project (AME) would transform Bellevue Road into a regional transportation route, creating a high-volume road that connects Highway 99 (at Buhach Rd), Castle Air Force Base, and UC Merced. However, the timing and funding for the AME project remain uncertain with more than $120 million still needed to cover the cost of the first two phases (I-99 to SR 59 at Bellevue).

6. ***While the City of Merced competes with other locations in Merced County and the broader San Joaquin Valley for jobs and associated commercial real estate development, it maintains a number of competitive advantages that make it well positioned to capture a disproportionate share of growth.***

   Various cities in the US 99 corridor, including Modesto and Turlock, as well as nearby Atwater and unincorporated areas such as Castle Air Force Base offer alternatives to Merced as

[3] City of Merced, January 2013

locations for both business and housing. However, the City of Merced possesses a number of competitive attributes that will enable it to compete effectively for regional growth potential:

- UC Merced, the only University of California Campus in the San Joaquin Valley;
- Likely location of a future high-speed rail station and existing multi-modal public transit;
- Stable, diverse community with attractive residential neighborhoods and appealing urban form (including a historic Downtown);
- "Gateway" to Yosemite and other outdoor recreation areas; and
- Convenient and successful retail shopping options (e.g., Merced Mall).

Key Findings Concerning the Bellevue Corridor

1. ***While the Bellevue Corridor is well positioned for growth, it is likely to face competition from other areas planned for development both within and outside the City Sphere of Influence.***

   The BCCP area location between developed portions of the City and the UC Merced Campus creates the opportunity to absorb UC Merced-related uses, without a "leap-frog" development pattern. The Plan area is large enough to accommodate a diversity of urban uses including a range of residential formats, retail uses, office, and institutional uses. In addition, a number of relatively large parcels are adequately sized for development without site assembly, a cost advantage over development areas with smaller sites. However, the existing development pattern that includes a number of rural residential developments may include some "hold out" property owners that constrain capacity and design of new development.

   While the Bellevue Corridor is a logical location for the City's expansion, existing development capacity within the existing City limit, especially in North Merced (e.g., Bellevue Ranch), will have a substantial cost advantage over the Bellevue Corridor location until a substantial portion of that existing approved development capacity is absorbed. In addition, the Bellevue Corridor could compete directly with planned development in the University Community that lies immediately south of the UC Merced Campus.

2. ***UC Merced is anticipated to drive growth proximate to the campus, supporting levels of absorption and density that may not be achievable elsewhere in the County.***

   At build out, UC Merced anticipates having a student population of 25,000, faculty and staff population of 6,500, and other daily population of about 600.[4] Current schools include the School of Engineering, School of Natural Sciences, and School of Social Sciences, Humanities and Arts, while planned schools include a School of Management and School of Medicine. UC Merced is committed to research activities, having already established programs such as the Health Sciences Research Institute, Sierra Nevada Research Institute, UC Merced Energy Research Institute and University of California Advanced Solar Technologies Institute. Funding is in place for additional research institutes in a number of other specialized fields.

[4] 2009 DEIS/DEIR

UC Merced will be the primary economic driver of real estate development in the Bellevue Corridor. This strategic location is likely to support clustered and more dense development patterns, especially for sites that are easily accessible (i.e., within walking distance) from the UC campus. Over time improved roadway connections such as the Atwater/Merced Expressway Project (described above) and the Campus Parkway Project, a connection between the Bellevue Corridor and Highway 99 to the south, may also expedite development of the BCCP area.

The time frame for UC-related development adjacent to the campus will be affected by the manner and pace in which UC programs grow. Currently, the State's fiscal crisis is affecting UC Merced's ability to proceed with its capital investment program for the campus, which may actually create opportunities for private sector actors to pursue real estate development that supports the campus expansion goals. The UC recently convened a ULI panel to evaluate the impacts and feasibility of a more "distributed growth" model for the UC as a potential mechanism address funding shortfalls.

3. ***While both the planned University Community and the Bellevue Corridor will need to resolve a number of infrastructure and institutional issues before development can occur, Bellevue appears to have a competitive advantage in this regard.***

Though UC Merced is located in unincorporated Merced County and is not within the service area of the utilities provided by the City of Merced, the campus area is provided water and wastewater service by the City of Merced under a Pre-Annexation Agreement. Water is primarily supplied by a line constructed within the roadway alignment of Bellevue Road. A sanitary sewer line also runs along Bellevue and connects to the City of Merced's sewer system at an existing trunk line on G Street, near Merced College. Although the sewer pipeline under Bellevue Road is sized to serve the full development of the campus, upgrades to the existing trunk line on G Street would be required.[5] There is no existing infrastructure of this nature serving the UC Community Plan area.

While detailed infrastructure cost estimates would be required to quantify any advantage the BCCP has over the UC Community Plan area, the presence of existing sewer and water lines along Bellevue Road suggests that new development could be more readily accommodated within the BCCP area. The timing and ease of annexation to the City of Merced, and thus the provision of urban services, would also seem to favor Bellevue Corridor since its location represents a more logical extension of the existing City limits.

4. ***Depending on how a number of institutional and infrastructure issues are resolved, the Bellevue Corridor appears well positioned to capture a portion of the regional growth currently designated to occur on the University Community Plan area.***

The University Community Plan, located along the southern border of the UC Merced campus, calls for more than 800 acres of new residential, retail, office/R&D, and other urban land

[5] Ibid.

uses, as summarized in **Figure 2**.[6] The Plan was designed to capture economic activity generated by UC Merced (and students, faculty, and staff), based on its demand for goods and services in the regional economy. However, as noted above, the Community Plan must address a number of challenges before construction can commence, including the provision of adequate infrastructure and other public services. In many respects, the Bellevue Corridor is equally or better positioned to capture market demand generated by the UC, given the corridor's location, access to infrastructure, ownership patterns, and other factors. Ultimately, the timing and share of market demand absorbed by these two areas, or other competitive locations nearby, will depend on how a range of highly-uncertain economic and institutional factors unfold over time.

Figure 2: Land Use Summary for the University Community (Northern Area)

Land Use	Town Center	Neighborhoods	Total
Single Family			
Units	1,418	3,356	4,774
Acres	45	330	375
Multi-Family			
Units	-	480	480
Acres	4	10	14
Mixed-Use			
Office (Sq. Ft.)	313,600	-	313,600
Retail (Sq. Ft.)	183,000	-	183,000
Housing (units)	540	-	540
Total Acres	15	-	15
Retail			
Sq. Ft.	130,700	78,400	209,100
Acres	8	6	14
Research & Development			
Sq. Ft.	2,308,300	-	2,308,300
Acres	71	-	71
Other[1]	66	273	339
Total Acres			**828**

(1) Includes schools, parks, and public ROW.

[6] Based on the land program described in the UC Merced and University Community Project EIS/EIR which has California Environmental Quality Act (CEQA) clearance.

5. ***While demand for research and development space is unknown, a high-level case study analysis reveals that planning for 2.5 to 5 million square feet of R&D/flex space around UC Merced would be aggressive, but also allow for upside potential.***

   The uncertainty surrounding UC Merced's future research programs and their potential for technology transfer and independent enterprise, coupled with the lack of an established real estate market for R&D space in Merced, make it difficult to establish a reliable estimate of long-run demand for research space. A review of market areas with a UC campus reveals that these areas support a range real estate market demand for R&D/flex space (see **Figure 3**). For example, Yolo County, near Sacramento and home to the UC Davis campus (established more than 50 years ago), supports about 500,000 square feet of R&D/Flex space. Meanwhile Orange County, where UC Irvine is located, supports roughly 18 million square feet of such space. Employment in scientific industries in Orange County is dramatically higher than in both Yolo and Merced Counties. Consideration of real estate market factors, employment characteristics, and UC programs suggest that Merced will attract demand for R&D space, but it is unlikely to exceed 5 million square feet.

Figure 3: Research and Development Case Study Findings

UC Host County	Nonfarm Employment	PSTS (% of Nonfarm)[1]	R&D/Flex Space (MSF)
Yolo (UC Davis)	113,000	6%	0.5
Merced	82,000	3%	***2.3*** [2]
Riverside	800,000	5%	2.7
Orange (UC Irvine)	1,876,000	9%	18

(1) Professional, Scientific, and Professional Services Sector

(2) Proposed development (see **Figure 2** above)

Sources: US Bureau of Economic Analysis; CoStar Group; and Economic & Planning Systems

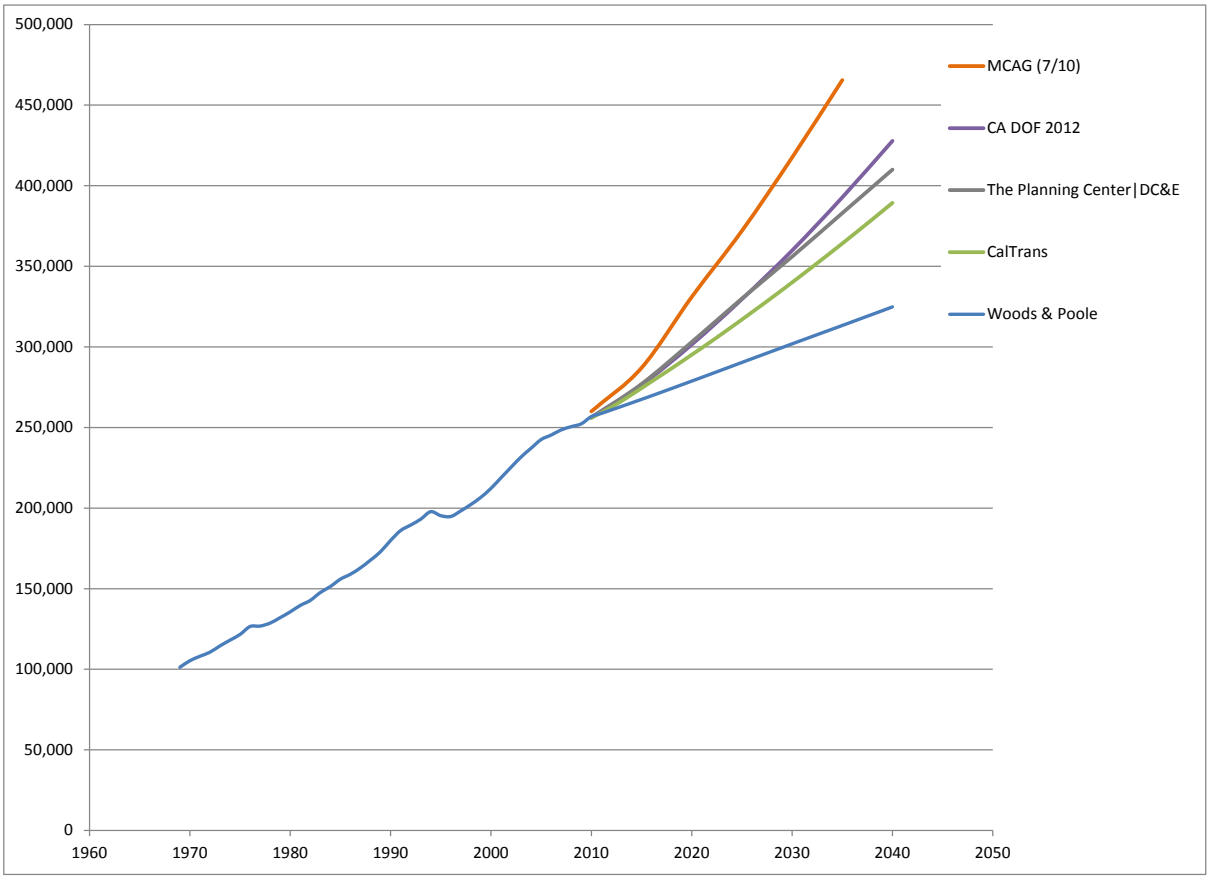
Socio-Economic Trends

Regional socio-economic trends and projections indicate moderate levels of growth and real estate development will continue in Merced County over the next two decades. Recent studies of San Joaquin Valley demographics indicate that Merced County might grow by about 100,000 people by 2030.[7] More conservative forecasts indicate that the County will grow by only 45,000 people (Woods & Poole), while relatively aggressive projections the indicate the figure could be 160,000 (Merced County Association of Governments) over the same time horizon. These

[7] Demographic Forecast for the San Joaquin Valley, Planning Center|DC&E, 2012 and California Department of Finance 2012.

forecasts suggest that average annual population growth rates will likely range from 0.8 percent to 2.4 percent in Merced County.

Figure 4: Total Population Forecasts for Merced County



Sources: Merced County Association of Governments (July 2010); State of California, Department of Finance (DOF); Woods & Poole Economics, Inc., 2012 State Profile; California Department of Transportation, Long-Term Socio-Economic Forecasts by County; San Joaquin Valley Demographic Forecasts 2010 to 2050, The Planning Center|DC&E, 2012; Economic & Planning Systems, Inc.

A recent study by The Concord Group (TCG) considers new housing demand under the population growth forecast prepared by The Planning Center|DC&E. In Merced County, TCG forecasts average annual demand for roughly 1,390 residential units per year (2010-50), one new residential unit for every 3.7 new persons over the next 40 years. Interestingly, TCG projects a significant increase in multifamily housing. The forecast indicates that about 46 percent of new units in the county will be in multifamily projects. This finding is in stark contrast to over 20 years of permit history data which indicate that less than 5 percent of Merced County's new housing units have been multifamily units. TCG's results are reflective of national data that indicate a preference for multifamily products among households with similar demographic characteristics to those households found in Merced County. In the City of Merced, TCG projects that 64 percent of housing demand will be for multifamily units, versus only 11 percent historically.

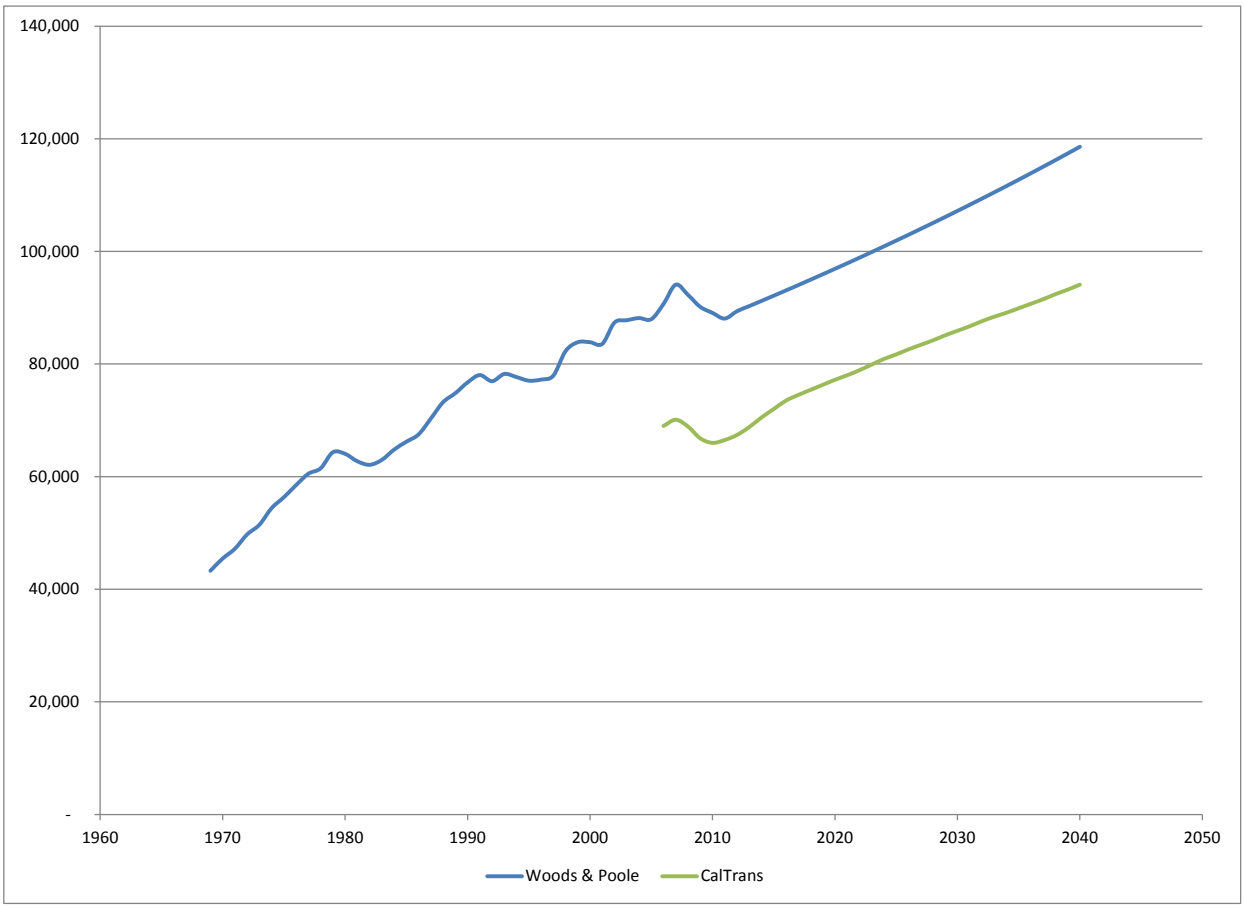
Employment projects support the notion of continued growth in Merced County, although it is unclear whether job growth will be sufficient to support the most aggressive population growth projections. A relatively conservative but well-accepted forecast of employment in Merced County from Woods & Poole indicates that average annual job growth will be approximately 0.9 percent, an increase of about 18,000 jobs over 20 years and 28,000 by 2040.[8] By comparison, the California Department of Transportation forecasts an employment growth rate of about 1.3 percent over the same period.

EPS calculations reveal that 18,000 new jobs over 20 years could support average annual net new demand for 100,000 square feet of office space each year in Merced County. There will also be demand for additional retail and industrial/flex commercial uses. Having captured nearly all County-wide office growth in recent years, the City of Merced is well-positioned to continue to attract new real estate development projects.[9]

[8] Ibid.

[9] While the forecasts are consistent in terms of projected absolute employment growth, the historical and future employment levels reported by Woods & Poole are systematically higher that those reported by the California Department of Transportation due to underlying data sources.

Figure 5: Employment Forecasts for Merced County



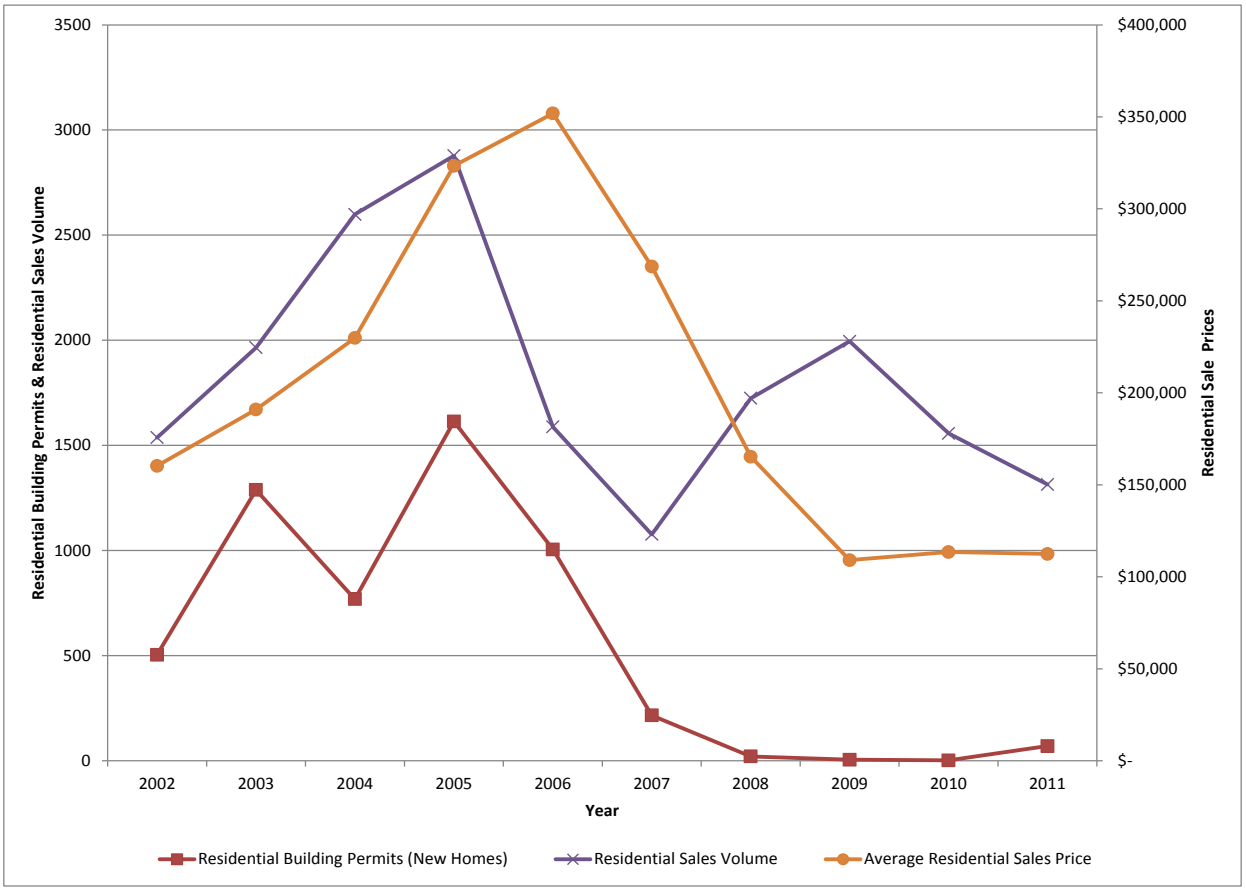
Sources: Woods & Poole Economics, Inc., 2012 State Profile; California Department of Transportation, Long-Term Socio-Economic Forecasts by County; Economic & Planning Systems, Inc.

Real Estate Trends

Residential Market

Recent residential real estate market activity in the City of Merced has increased since hitting a cyclical low in 2007 and there are indications that over time conditions will return to a more normal market and construction activity. However, while prices have stabilized with an average home selling for about $110,000 over the past three years, values remain well below the peak price of $350,000 for an average home in 2006. Sales volumes plummeted with the market prices in 2007, but bounced back as investors entered the market in 2008 and 2009, though transaction volumes have fallen off since then, likely due to diminished market inventory. A substantial portion of market activity is attributable to investors seeking to reap gains as housing market improves. While City permitting of new homes dropped to nearly zero in 2009 and 2010, Merced issued 70 permits for new homes in 2011, a positive sign for housing developers in the City.

Figure 6: City of Merced Residential Permits, Sales, and Prices

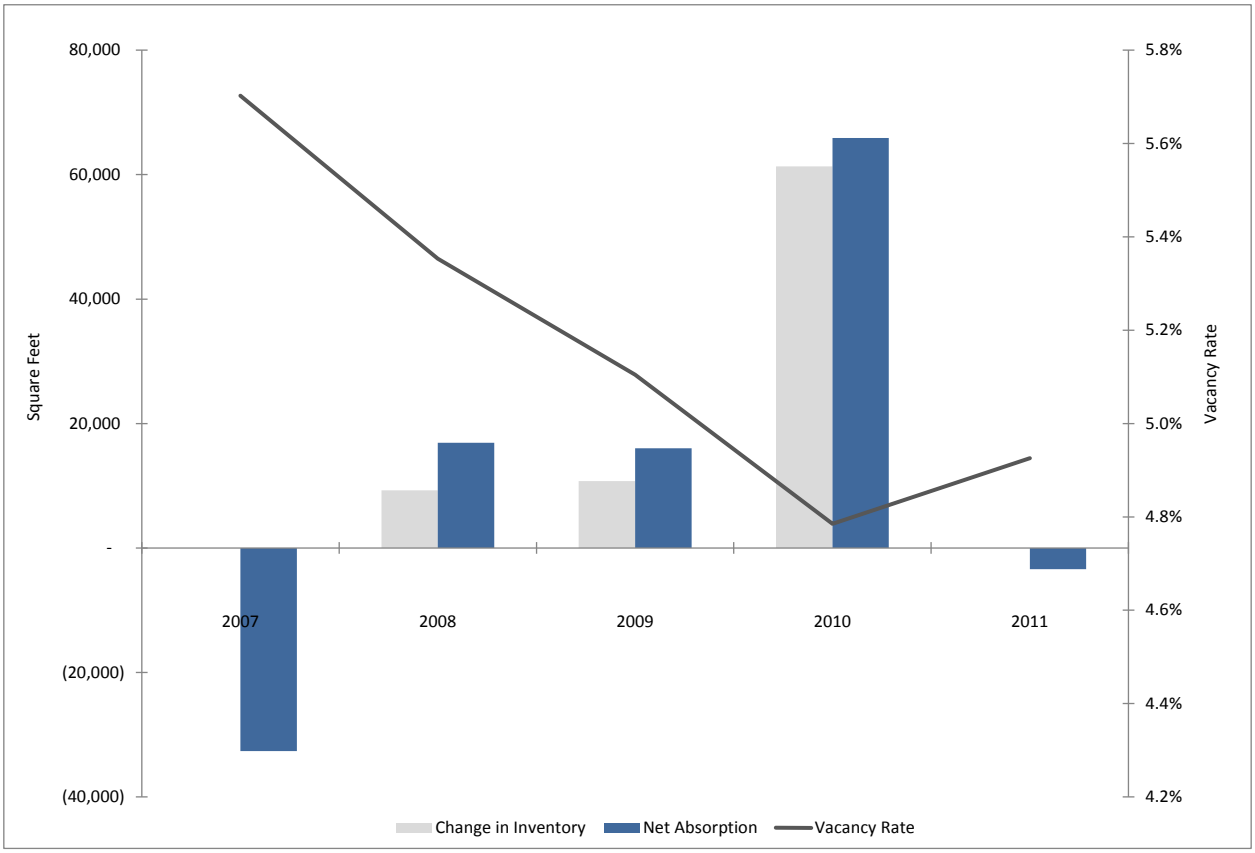


Source: RAND California and EPS

Office Market

Considering the dismal macroeconomic trends in the US during recent years, the City of Merced office market has performed well. Office vacancy has fallen since 2007 and remains below 5 percent, even with over 80,000 square feet of new space introduced in the market during that timeframe. Vacancy countywide is over 10 percent. Despite a relatively healthy market for office space in the City, with lease rates for new space in the range of $1.25 to $1.50 per square foot (per month), office development has been generally limited to single-story structures.

Figure 7: City of Merced Office Market Trends

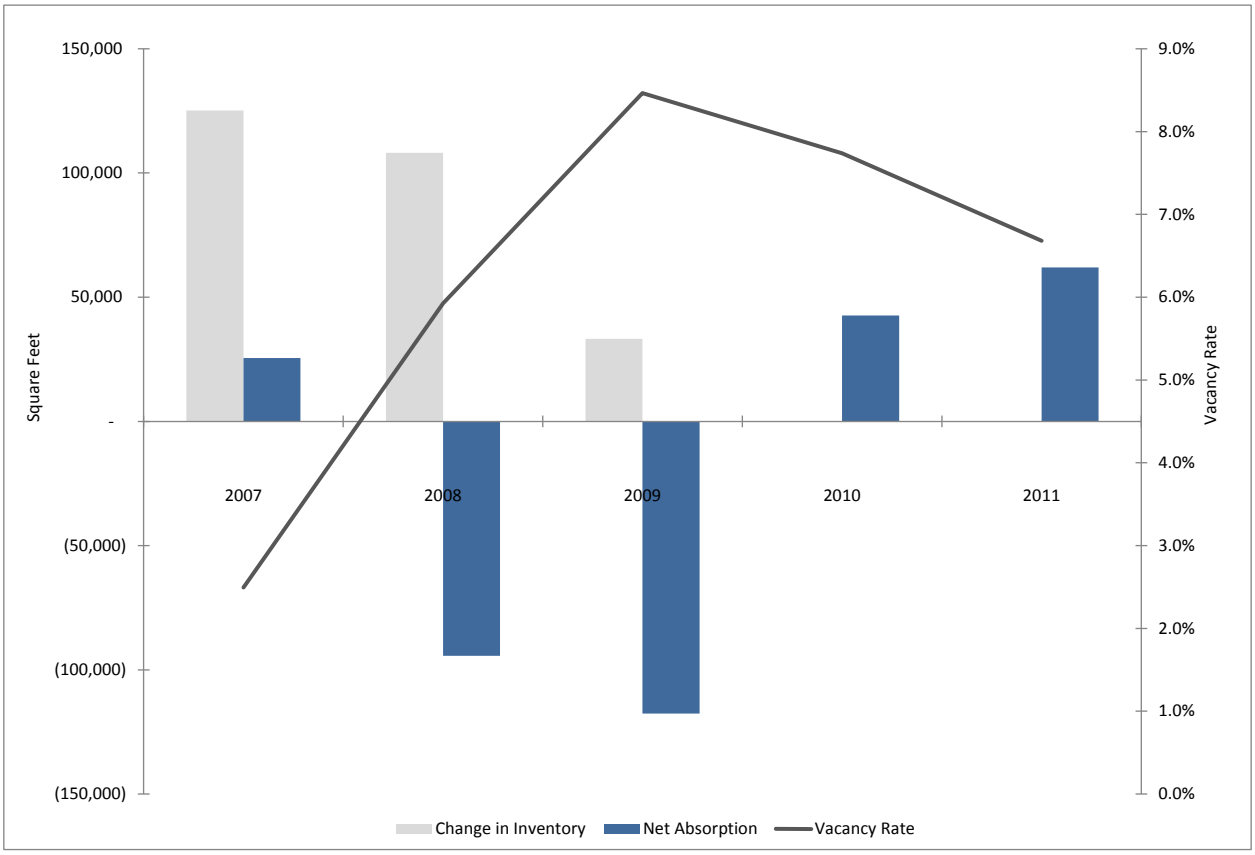


Sources: CoStar Group; Economic & Planning Systems, Inc.

Retail Market

Developers delivered over a quarter of million square feet of new retail development in the City of Merced between 2007 and 2009, about 30 percent of total deliveries in the County during that period. However, the development of this new retail space, in combination with negative net absorption, pushed the City's retail vacancy rate up dramatically. Retail vacancy peaked at about 8 percent in 2009 but fall to less than 7 percent in 2011, as retailers have filled unoccupied spaces. These are similar trends to those observed in the County overall. The available data indicate that positive net absorption of retail space may be partially attributable to more affordable leases, with average asking rates now as much as 50 percent less than their pre-recession peak.

Figure 8: City of Merced Retail Market Trends

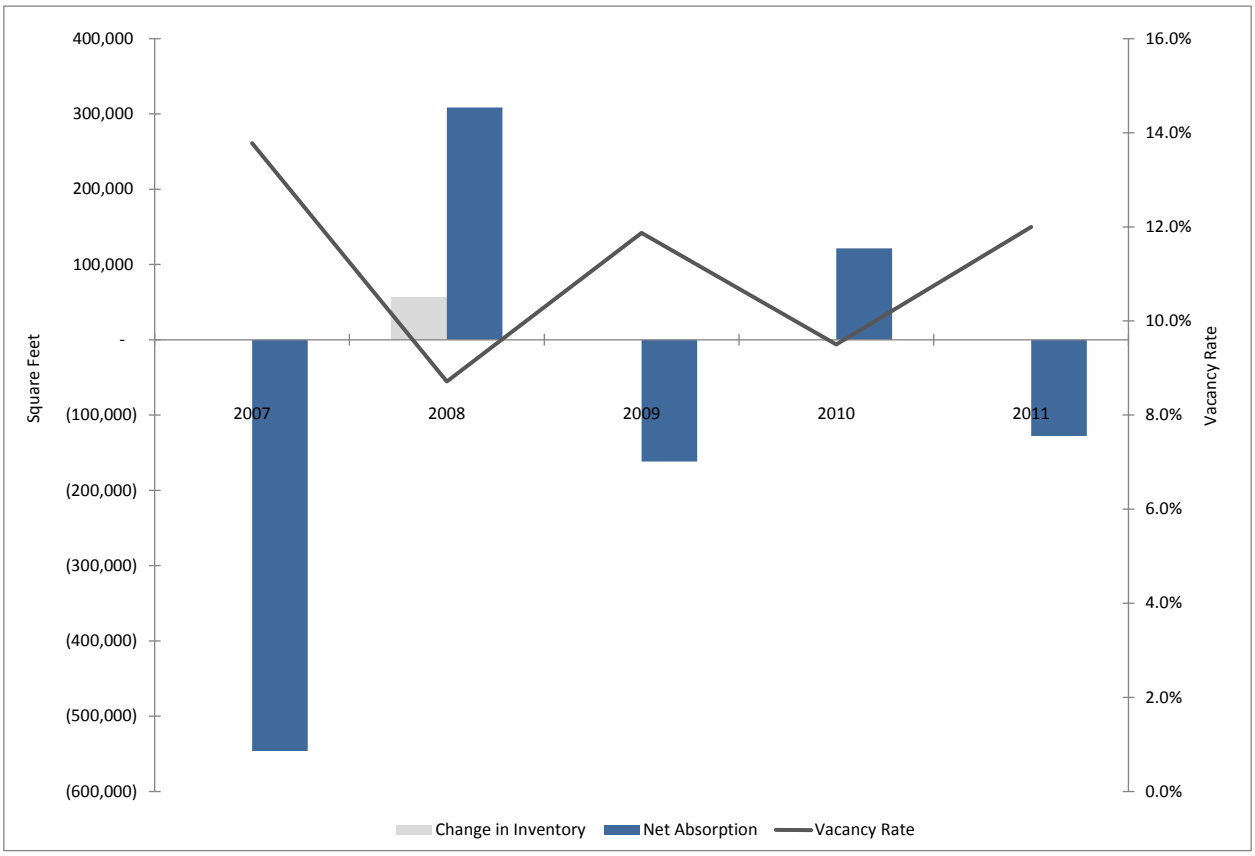


Sources: CoStar Group; Economic & Planning Systems, Inc.

Industrial Market

The market for industrial real estate in the City of Merced has been volatile in recent years, with dramatic swings in net absorption. Significant negative net absorption in 2007, combined with existing vacancy, left nearly 700,000 square feet of unoccupied industrial space in the City of Merced. However, 2008 and 2010 saw positive net absorption and industrial vacancy is lower today than in 2007. With built space available, there has been little new development of industrial real estate in recent years.

Figure 9: City of Merced Industrial Market Trends



Sources: CoStar Group; Economic & Planning Systems, Inc.

Land Market

Even with recent changes to the City's planned expansion areas, there is significant entitled land capacity within Merced's Sphere of Influence.[10] A recent EPS study determined that there is un-built development capacity for roughly 30,000 dwelling units and 12 million square feet of commercial space in sphere of influence areas located to the north and east of the current city boundary. Some undeveloped land is already entitled for new projects, with those approved projects enjoying a substantial cost advantage over creating new subdivision plans. Outside of the Merced Sphere of Influence, future competition is anticipated to come from nearby growth areas such as Atwater and Castle Air Force Base.

In addition, a significant amount of campus-related demand could be accommodated by land controlled by the UC and its partners. The UC Merced campus includes approximately 225 acres for student neighborhoods (accommodating 12,500 beds) and 75 acres for research and development uses. Further, University Community (northern area) located south of the UC

[10] The Merced Vision 2030 General Plan, which was adopted by the City Council on January 3, 2012, revises the planned urban expansion area around Merced (now a combined Specific Urban Development Plan and Sphere of Influence) to be "slightly smaller than the 1997 Sphere of Influence".

Merced campus is envisioned to provide housing and services for 30,000 people. Even more development is planned for University Community South. While the Bellevue Corridor is well positioned to capture growth associated with the evolution of UC Merced, it likely will compete with the campus and campus village areas to accommodate growth associated with UC Merced.

Reflective of the availability of undeveloped land, there is a notable market for raw land in and around Merced. A review of available data reveals that over 5,000 acres has transacted in ZIP codes around the City of Merced (95303, 95340, 95341, 95348, and 95388) since 2002. Excluding identifiable property "flips" and land purchased for conservation, EPS estimates that about 2,000 acres was sold for development from 2002 through mid-2012. The available data reveal that six transactions accounted for more than half of the acreage sold. The buyers of these large parcels reported that the purchases were made as investments, to hold for future development, or for development of single family homes.

REPORT 2:

Transit Priority Project

& Public Right-of-Way

MEMORANDUM

To: Lisa Wise

From: Colin Burgett

Date: October 31, 2012

Subject: *Bellevue Community Corridor Plan* Background Report:
Transit Priority Project & Public Right-of-Way

This memorandum provides background reports concerning proposed Transit Priority Project (TPP) and the future public right-of-way network (i.e., streets, paths, and transitways) relevant to the *Bellevue Corridor Community Plan* (BCCP).

The BCCP is intended to guide the physical development of approximately 1,920 acres of currently unincorporated land north of the current City of Merced and west of the University of California (UC) Merced campus. Key goals identified for public right-of-way include:

- **The establishment of standards for circulation and "complete streets", "transit priority projects", and land uses, site plans, and building design**
- A key goal of this planning effort is to ensure that the future street network includes elements that will provide:
    - Capacity to accommodate anticipated travel on the Bellevue Road corridor
    - Coherent and pedestrian-friendly streetscapes
    - Design elements to accommodate all modes of transportations
    - Road connections to UC Merced

Report Overview

This report is divided into the following three sections:

1. **Transit Priority Project (TPP)**
    a. Definition of TPP
    b. City's Planned Transitways
    c. Land Use & Transportation Challenges
    d. Potential Transit Service Options
2. **Public Right-of-Way**
    a. Planned Circulation Network & Street Design
    b. Constraints & Opportunities Related to TPP

3. **Preliminary Recommendations**
    a. Transitway Alignment Alternatives
    b. Mixed Use Collectors

1. TRANSIT PRIORITY PROJECT

This section provides information relevant to potential transit service, and transit-related physical improvements, that would support the City's goal of identifying "transit priority project" (TPP) locations within the Plan Area.

Definition of "Transit Priority Project"

Transit Priority Areas were introduced in California's Senate Bill 375 (SB 375) intended to align regional transportation, land use, housing and greenhouse gas emissions planning.

- A key element of SB 375 is the option for regions and their local governments to provide significant California Environmental Quality Act (CEQA) regulatory streamlining incentives for Transit Priority Projects.
- Transit Priority Projects are housing or mixed-use residential projects with 20 dwellings per acre or more that are located within a Transit Priority Area. CEQA streamlining can provide time certainty, cost and benefits needed by infill and transit-oriented development.

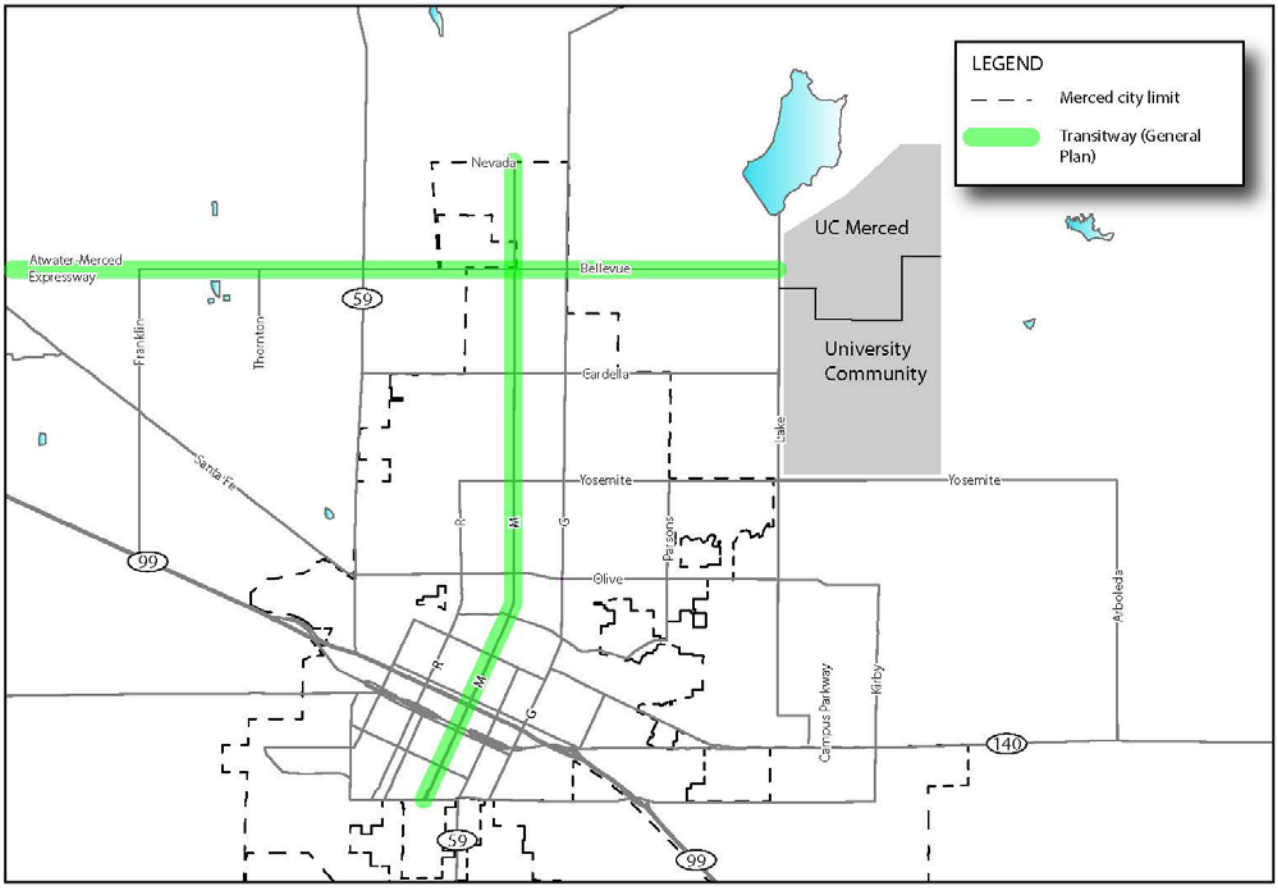
"Transit priority projects" are projects that meet the following criteria (see Appendix A for the full ordinance):

- Contain at least 50% residential use
    - If non-residential uses are between 26% and 50%, a floor area ratio (FAR) of not less than 0.75 is required
- Minimum net density of 20 dwelling units per acre
- **Located within one-half mile of either a major transit stop or high-quality transit corridor included in a regional transportation plan, with service intervals of not less than 15 minutes during peak hours.**

This report focuses primarily on the transportation-related components of creating a TPP corridor in the BCCP area.

City's Planned Transitways

Figure 1-1 Planned Transitways (Merced General Plan)

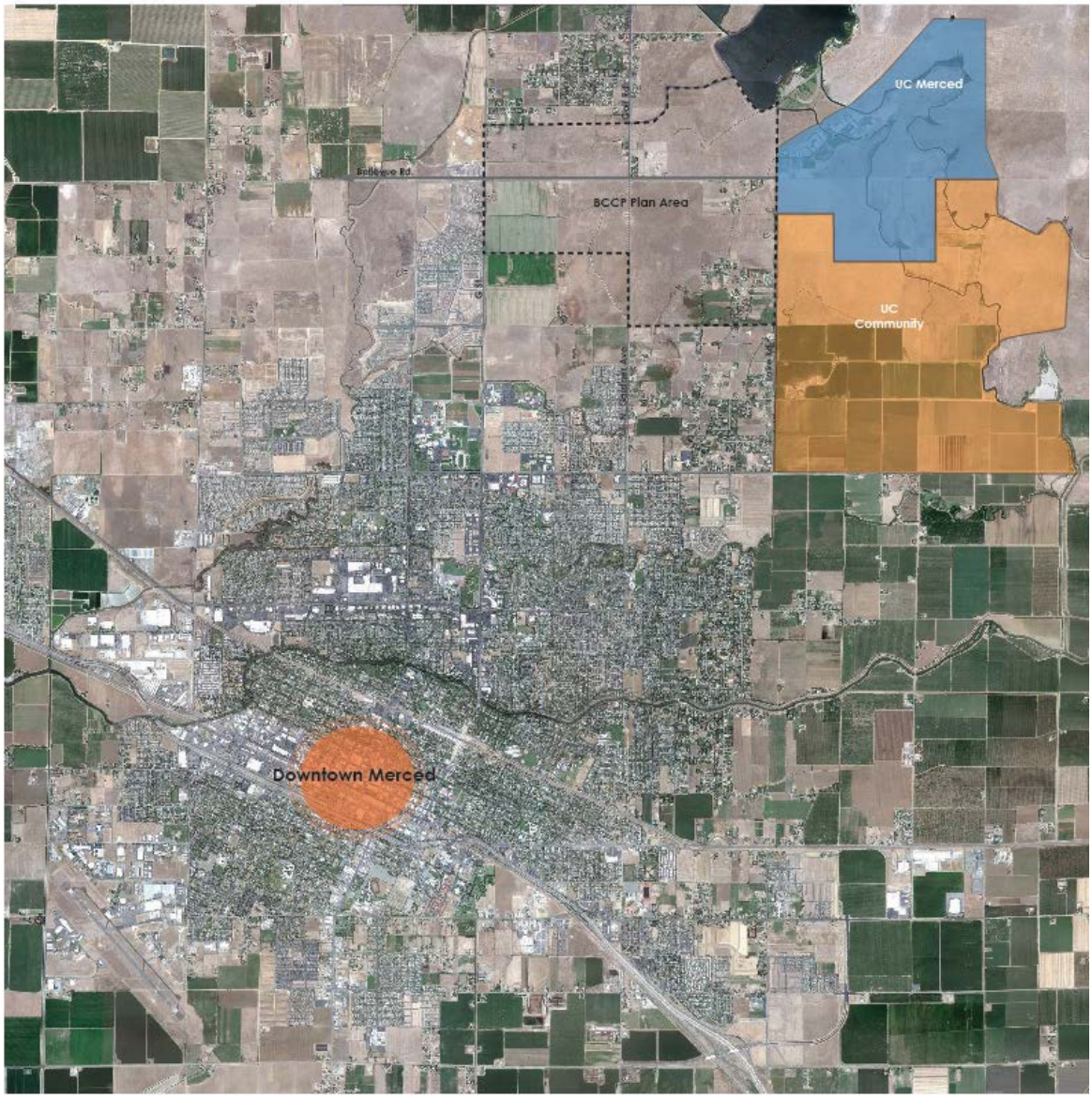


The Merced General Plan designates M Street and Bellevue Avenue / Atwater Merced Expressway (AME) as future "transitway" corridors. As described in the General Plan: transit passengers would transfer between M Street and Bellevue/AME buses at a proposed transit center to be located at the intersection of Bellevue Road and M Street.

The travel distance between Downtown Merced and UC Merced, based on the M Street + Bellevue alignment, is approximately seven (7) miles. *Typical transit travel time for a corridor of this distance is 26 to 35 minutes.*

Land Use & Transportation Challenges

Figure 1-2 Plan Area Proximity to UC Merced & Downtown



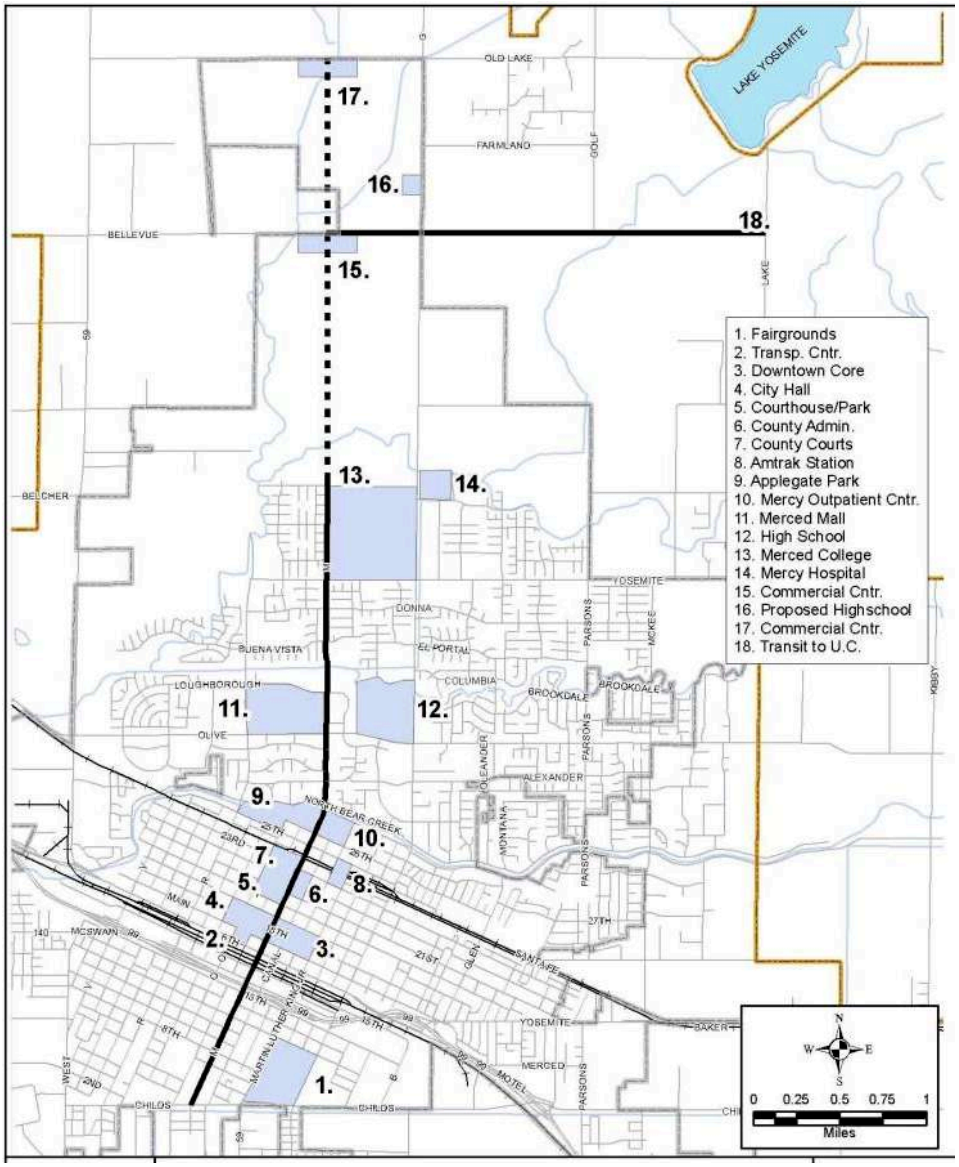
The BCCP area borders a key trip attractor – the UC Merced campus. As part of the BCCP effort: the City may wish to ***consider provision of a more direct transit corridor between UC Merced and Downtown Merced****, particularly given the anticipated "expressway" configuration for the proposed Merced Loop system (see Figure 1-3) as well as potential trip attractors on G Street (including the medical center), Castle Airport, and potential mixed-use development south of Bellevue Road.*

Proposed Merced Loop System

The proposed regional loop system, which would connect Bellevue Avenue and the Atwater Merced Expressway (AME) with Campus Parkway and a potential southern extension across Highway 99, may conflict with the goal of creating a Transit Priority Project (TPP) corridor on Bellevue Avenue within the study area.

Regional expressways tend to encourage lower-density development patterns and can discourage adjacent residential development (within one-half mile), thus potentially not supporting the goal of creating a TPP corridor along Bellevue Road itself.

Figure 1-3 Transitway & M Street Land Uses (General Plan)



Transit-Adjacent vs. Transit-Oriented Development

As described in the introduction, providing a high level of frequent transit service to the Plan Area is just one part of the requirement to create a TPP. The intent of the TPP is to ultimately encourage transit oriented development (TOD). However, the creation of truly transit-oriented land uses along transit corridors can be a challenge, often resulting in transit adjacent development (TOD) that is not truly transit oriented.

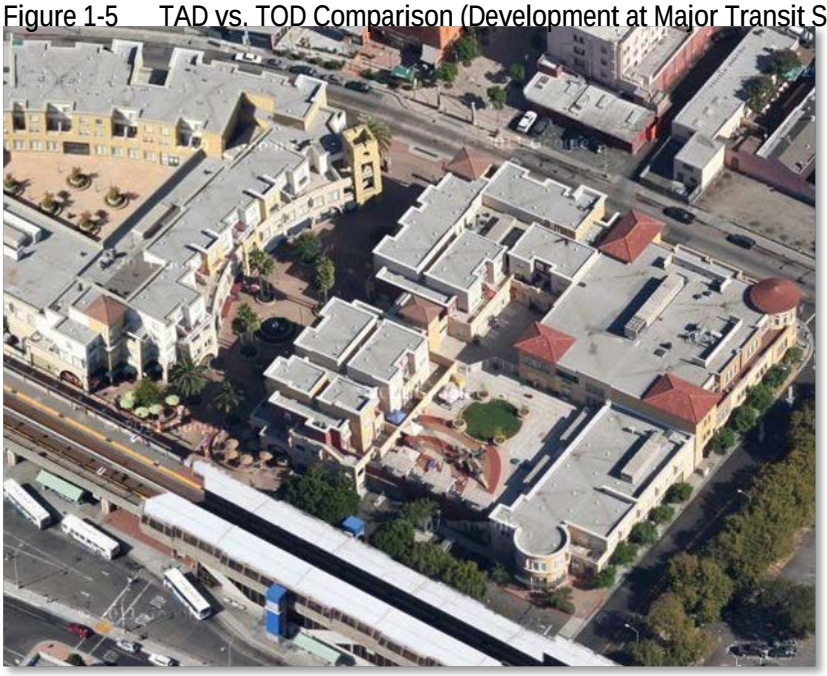
- **Transit Oriented Development (TOD)** is characterized by land use patterns that are oriented to maximize access to transit stations within a half-mile radius (a ten-minute walk).
- **Transit Adjacent Development (TAD)** is characterized by land use patterns within a half-mile radius of a transit station that do not use this proximity to transit to promote compact, focused development that fosters multimodal transportation.
- Figure 1-5 adapts a chart composed by John L. Renne to differentiate between TADs and TODs, and Figure 1-7 illustrates an example of "transit-adjacent" (not "transit-oriented") development on an existing corridor near the BCCP area.

Figure 1-4 TOD vs. TAD

• Characteristics of Station Area Development Patterns	
• **TAD (Transit-Adjacent Development)**	• **TOD (Transit-Oriented Development)**
Suburban street pattern	Grid street pattern
Low densities	High densities
Dominance of surface parking	Mostly underground or structured parking
Limited or no pedestrian access	Pedestrian-focused design
Limited or no bicycle access/parking	Bicycle access/parking
Single-family homes	Multi-family homes
Industrial land uses	Office and retail land uses, especially along main streets
Segregated land uses	Vertically and horizontally mixed land uses
Gas stations, car dealerships, drive-thru stores and other auto-focused land uses	Stores and local-serving land uses designed for pedestrian access

Source: Adapted from Renne, 2009 (i)

Figure 1-5 TAD vs. TOD Comparison (Development at Major Transit Stops)



Transit Oriented Development (TOD) Example *– characterized by a development pattern that orients land uses for pedestrian access to adjacent transit station (while parking is relocated to a less-central location).*

Transit Adjacent Development (TOD) Example *– characterized by a large surface parking lot that occupies most of the site bordering a transit station (and drive-through windows serving key land uses within the site).*

Figure 1-6 TAD vs. TOD Comparison (Merced Photo Examples)

Newer segments of the M Street Transitway corridor have been developed with characteristics of ***Transit Adjacent Development (TAD)*** *as land uses are internally oriented, with sound walls separating the transit corridor from adjacent residences.*

Older segments of Merced's street network were developed with land uses oriented towards adjacent streets – a desirable trait for promoting ***Transit Oriented Development (TOD)***

Potential Transit Service Options

Several types of transit service and physical improvement types would support the level of permanency envisioned for a TPP site, including:

- Bus Rapid Transit (BRT)
- Rapid Bus Service (RBS)

Bus Rapid Transit (BRT) improvement and service options would provide dedicated travel lanes for bus service in combination with high-occupancy transit vehicles, enhanced boarding platforms and signal pre-emption measures to minimize travel time and maximize potential ridership. BRT systems have been implemented in over 25 cities in North America.

Figure 1-7 Bus Rapid Transit (BRT) Examples

BRT vehicles currently in operation in Los Angeles, California (left) and Las Vegas, Nevada.

Examples of dedicated bus lanes and BRT stop amenities in Eugene, OR (left) and Vancouver (BC).

Key features of BRT systems including the following elements:

- **Dedicated Bus Lanes** that remove or reduce conflicts between cars and buses. This provides a BRT vehicle with its own travel lane free of conflicting traffic, double-parked or stopped vehicles. Removing these causes of delay can significantly increase the speed, efficiency, and reliability of transit service, which in turn can improve rider experience and increase transit ridership.
- **Transit Traffic-Signal Priority** helps buses to spend less time stopped at red lights, enabling faster trips and more reliable overall service.
- **Faster Boarding through Improved Fare Collection** is a key element of BRT. Passengers pay before boarding the vehicle at easy-to-use, convenient paystations on the station platform and then are able to board through any door. Once on the bus, tickets or monthly passes serve as proof of payment when requested by inspectors. This multi-door boarding, proof-of-payment system eliminates the need for buses to wait while all passengers pay at the front door, removing a significant factor in vehicle delay. It also improves the rider experience by allowing for a wider variety of payment choices including multi-use universal transit cards, monthly passes, and credit cards.
- **Modern, Low-Floor, High-Capacity Buses** with multiple doors allow for more convenient and faster boarding/exiting, and provide passengers with a more comfortable and quieter ride.
- **Distinctive Stations and Boarding Areas,** ranging from protected shelters to large transit centers, are designed to serve as both traveler amenities and neighborhood enhancements. Improved bus stops aim to enhance safety and comfort for waiting passengers and strengthen neighborhood identity by including better signage and maps, high-quality shelters, and lighting.
- **Real-Time Information** tells riders when the next bus will arrive, allowing users more control over their time.
- **Streetscape, Bicycle, and Pedestrian Access Improvements** such as landscaping, countdown signals, bicycle racks, and well-designed crosswalks, enhance the adjacent neighborhoods and make the street safer and more comfortable for pedestrians and bicyclists accessing the bus stops. Good street design enhances safety and comfort for residents, shoppers, and other users, and gives the street a cohesive sense of identity.

BRT can reduce travel times, increase reliability, and attract new riders, at a lower construction cost compared to more expensive alternatives.

Typical BRT Cost Range (Physical Improvements): $6 million to $25 million per mile

BRT Example: Eugene EMX

The Eugene/Springfield area (home of the 22,000-student University of Oregon) has an estimated population in its urbanized area in the year 2008 of about 240,000[11]. Despite a relatively small population, the area is served by a fully featured BRT service between the two cities' downtowns and major trip generators. The Emerald Express (EMX) includes several different segments with varying design and operational characteristics:

- About three-fifths of the existing route is in bus-only lanes in the median.
- In addition to downtown Eugene and Springfield, the initial EmX route (named the "Green Line"), **serves two college campuses (the University of Oregon, with 22,000 students, and Northwest Christian College) and a major regional hospital (Sacred Heart Medical Center).** Ridership has exceeded expectations.

Within 17 months of the Green Line's introduction in early 2007, ridership in the corridor had roughly doubled from 2,700 to 5,400 average weekday boardings[12], or about 675 boardings per unidirectional mile. EmX service was free until late-2009). Ridership on the Green Line is now about 90 passengers per hour of revenue service. By reducing delay, dedicated rights-of-way improve not just speed, but reliability. On-time performance significantly improved.

- The Green Line replaced a local bus line (Route 11), and has reportedly reduced approximate average end-to-end travel times over the four-mile route from up 16-22 minutes[13] to a predictable 15 minutes.
- While these savings may appear insignificant on a per-trip basis, more passengers ride during the most congested peak periods, when time savings are greater, and dedicated rights-of-way ensure that transit speeds remain relatively constant over time, even as traffic congestion increases. Lane Transit District, the operator of EmX, has estimated that cumulative time saved by all riders could reach 175,000 hours annually within roughly 20 years.

The Green Line cost about $6.15 million per mile to construct, significantly less than the $30 to $50 million per mile it is estimated a light rail line might have cost[14]. The route is also relatively cost-effective to operate, at $1.54 per boarding[15].

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[11] U.S. Census Bureau American Community Survey, 2006-2008

[12] The primary source for information in this case study is *From Buses to BRT: Case Studies of Incremental BRT Projects in North America,* by John Niles and Lisa Callghan Jerram for the Mineta Transportation Institute, 2010.

[13] Travel times for Route 11 vary by source. According to the EmX Frequently Asked Questions page at the Lane Transit District website (http://www.ltd.org/search/showresult.html?versionthread=6d517154d17fc3e09be84a0ee196bd7b), the projected 16-minute travel time for the Green Line was projected to amount to a six-minute savings. Other sources have reported travel time for Route 11 of 16 minutes. It is likely that this discrepancy is a result of different speeds at different times of day, as transit vehicles operating in traffic are often much slower during peak periods.

The EMX line is served by six vehicles (four in service, plus two spares) purchased at a cost of $960,000 each. EmX (Emerald Express) vehicles are specially designed 63-foot buses with doors on both sides (so that some stops can be center island platforms) and stops feature raised platforms to allow near-level boarding.

[14] Lane Transit District staff, as cited in *From Buses to BRT: Case Studies of Incremental BRT Projects in North America*

[15] For Fiscal Year 2009-10, according to information provided by LTD staff

Figure 1-8 BRT Median Transitway Example: Eugene EMX

Source: Flickr user "functoruser" (used under Creative Commons license: http://creativecommons.org/licenses/by-sa/2.0/)

3-mile BRT line was constructed in Eugene, Oregon at a cost of approximately $25 million. Several other US cities are proposing to implement BRT including San Francisco and Oakland.

EmX serves as an especially illustrative example of the design and flexibility afforded by BRT:

- While much of the EmX alignment is provided within a "median busway" (similar to the proposed "median busway" on segments in Merced), designers were constrained in other locations by a policy decision to limit impacts on traffic and parking.
- In some segments, EmX buses operate in curbside bus lanes.
- Also, as shown in Figure 2, in some segments there is only a single bus lane shared by buses in both directions. According to LTD staff, this limits the capacity of the system to seven-minute headways, or about 800 to 900 passengers per hour in each direction.
- Currently, buses run every 10 minutes, and ridership reaches around 500 passengers per hour during peak periods.

Another notable design element of EmX is its raised platforms enabling near-level boarding. This allows able-bodied passengers to simply step onto or out of vehicles, rather than up or down. More importantly,

it can greatly reduce the time required for passengers using wheelchair or other mobility devices, or passengers with strollers, to be loaded and unloaded.

Figure 1-9 BRT Median Station Example: Eugene EMX

Source: Creative Commons license: http://creativecommons.org/licenses/by-sa/2.0/)

Rapid Bus Service (RBS) would provide some of the same key elements as BRT, but with:

- Shared travel lanes with motor vehicles on most segments
- Incorporating measures to increase bus operating speed including:
  - Traffic-signal priority measures
  - Bus queue jump lanes at some locations
  - Enhanced boarding platforms to reduce "dwell" time for buses and facilitate faster boarding for passengers

On some corridors, RBS service can achieve similar travel time savings for buses as could be achieved with dedicated bus lanes, with a substantial cost savings. This may be especially applicable to Bellevue Road and the Atwater Merced Expressway (AME) segments.

Typical RBS Cost (Physical Improvements): ~$150,000 to $300,000 per mile

RBS Example: San Pablo Rapid (Oakland/Berkeley/Emeryville/Richmond)

Examples include the "San Pablo Rapid" service operated in the San Francisco Bay Area by AC Transit that resulted in travel time reductions and increased ridership on the San Pablo Boulevard corridor that connects Oakland, Emeryville, Berkeley, Albany, El Cerrito and Richmond.

The San Pablo Rapid (AC Transit Line 72R) is a 14-mile "rapid bus" line (with buses operating in mixed-flow traffic) on a four-lane roadway (2 lanes in each direction). The rapid service began operation in June 2003 and runs along San Pablo Avenue covering two counties and seven cities; San Pablo, Richmond, El Cerrito, Albany, Berkeley, Emeryville, Oakland. The 72R operates from Monday through Friday from 6:00 am to 7:00 pm. The service operates on 12 minute headways.

Planning for BRT service along the San Pablo Avenue Corridor began in 1995 as a coordinated effort between the cities bisected by this corridor and AC Transit as a way to improve the economic vitality, mobility, accessibility, and quality of this corridor. **Key attributes of the San Pablo Rapid are:**

- **There are 26 bus stops over the 14 mile segment and each stop is spaced approximately 0.54 miles apart.**
  - Each stop is equipped with a shelter or kiosk as well as NextBus real-time bus arrival data, schedule, map, bench, trash bin and lighting.
- **The service employs transit signal prioritization at intersections, Automatic Vehicle Locator technology, and Automatic Passenger Counters.**
  - Compared to the previous "limited" bus service (72L), the 72R has reduced the travel time from one end of the corridor to the other by 12 minutes which is equivalent to a 17% reduction in travel time as compared to the 72L and 21% compared to local service (72 and 73).
- **The total capital cost for the project was approximately $3.2 million or $228,571 per mile.**[16]
  - The cost for the 72R was lower than is typical for in-street mixed traffic alignments due to the fact that AC Transit already had the necessary vehicles and did not have any right-of-way acquisition costs.

[16] The San Pablo Rapid BRT Project Evaluation funded by the Federal Transit Administration. June 2006.

– Funding for this project came from Contra Costa and Alameda County allocated federal funds as well as a federal budget earmark.

Net Ridership on the San Pablo corridor increased by 8.5% after the implementation of the rapid bus service.

RBS Example: Los Angeles Metro Rapid

The Los Angeles County Metropolitan Transportation Authority's (MTA) Metro Rapid program serves to demonstrate that buses can be made significantly faster and more attractive to potential riders at relatively little cost using methods relevant to cities of all sizes.

Figure 1-10 RBS Station Amenity Example: LA Metro Rapid Kiosk

Source: Flickr user "fredcamino" (used under Creative Commons license: http://creativecommons.org/licenses/by-sa/2.0/)

The Metro Rapid program was a pioneering effort in North American rapid bus service. Its first two lines, in the Wilshire/Whittier and Ventura corridors, were rolled out in the year 2000. Today, the network encompasses 25 lines spanning roughly 440 miles.

This rapid deployment has been made possible by a relatively simple approach emphasizing eight no- or low-cost attributes[17]:

- Frequent service
- Traffic signal priority
- Headway-based schedules
- Simple routes
- Widely-spaced stops
- Integration with local routes
- Low-floor buses
- Distinct branding

[17] The primary source for information in this case study is *From Buses to BRT: Case Studies of Incremental BRT Projects in North America,* by John Niles and Lisa Callghan Jerram for the Mineta Transportation Institute, 2010.

Of the attributes listed above, only two incur notable cost, according to MTA:

- **Signal priority or "Intelligent Transportation Systems" (ITS) treatments cost approximately $100,000 per mile to implement.**

- **Metro Rapid stops, with varying amenities, cost about $50,000 apiece.** While all Rapid buses are low-floor models, with higher-capacity buses used on some lines, Metro has purchased vehicles through its regular procurement process, so Rapid buses are, in effect, ordinary buses distinguished by their color-coded (red) livery featuring prominent logos.
- **The total cost to implement Metro Rapid has averaged about $240,000 per mile.**

The Metro Rapid program grew out of a late-1990s study that found that MTA buses spent roughly half their travel time stopped, either at stops or at red lights. The simplest way to speed buses is to have them make fewer stops, and Rapid stops are approximately 0.7 miles apart on average, compared to 0.3 miles on limited-stop routes and 0.2 miles on local routes.

The Rapid system has achieved impressive gains in speed and ridership. Rapid buses are on average about 25 percent faster than local buses, and between 2000 and 2007 ridership in Rapid corridors, including both Rapid and local lines, increased by about 20 percent. Studies conducted on the first two lines (Wilshire/Whittier and Ventura) shortly after their debut found that about one-third of riders were new to transit, and that one-third of the improvements in speed could be attributed to signal priority. The other improvements can be attributed to fewer stops, far-side stop locations, low-floor buses, headway-based schedules, and a coordinated management effort by field supervisors and central control.

The system's low cost has also allowed it to be expanded primarily using federal Congestion Mitigation and Air Quality (CMAQ) funding rather than more restrictive Federal Transit Administration (FTA) Small Starts program grants. Operating costs, meanwhile, are relatively low at $2.51 per boarding[18].

RBS Example: Stockton Metro Express

Stockton has an urbanized area population of about 350,000 and the annual San Joaquin Regional Transit District, or RTD ridership, in 2008, was about 4.8 million annual boardings[19].

The first route in Stockton's Metro Express system, Route 40 (additional routes are under construction and planned), runs from Downtown north past two college campuses (the University of the Pacific and San Joaquin Delta College) and two major shopping centers (Weberstown and Sherwood Malls). Most of the route is along major arterials (Pacific Avenue and the one-way couplet of North El Dorado and Center Streets), and stops are on average more than a mile apart.

Route 40 is a "rapid" line without bus-only lanes – yet within three years of introduction, it has almost tripled ridership in the corridor, from fewer than 1,000 daily boardings on three local routes serving the alignment to about 2,700 daily boardings[20].

According to RTD staff, productivity now stands at about 42 passengers per hour, and the service's farebox recovery ratio is close to 50 percent.

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[18] Based on Fiscal Year 2010 budget and 3rd Quarter FY09-10 data, as provided by MTA staff

[19] National Transit Database

[20] Presentation by Paul Rapp, Marketing and Communications Manager for RTD

Route 40 is relatively fast for a bus route operating in traffic: average scheduled one-way travel time during peak periods is 23 minutes, over roughly a 5.7 mile route, for an average speed including stops of nearly 15 miles per hour.

This can be attributed to several factors, including low-floor buses, traffic signal priority, and a system of prepaid boarding allowing simultaneous boarding through all doors.

Boarding through all doors may be the most notable feature because it is a relatively rare attribute for a rapid bus line. While ticket vending machines (TVMs) can be somewhat costly (the Transit Cooperative Research Program's *Report 118: Bus Rapid Transit Practitioner's Guide*, gives an average cost of $65,000 per TVM), a "proof-of-payment" or honor system can reduce average dwell time per boarding from between 3.6 and 4.3 seconds (for passengers paying cash fares) to between 2.25 and 2.75 seconds. On a relatively high-ridership service, this can represent a significant savings: for example, if just one second was saved per passenger, but 60 passengers were to board over the course of a trip, it would amount to a savings of one minute per trip.

Metro Express is also notable for its relatively elaborate and highly visible stops, with double-canopied shelters offering benches as well as distinctive "lean rails." These high-profile facilities contribute to a branding strategy that also includes distinctly designed buses.

Figure 1-11 RBS Station Amenity Example: Ticket Machine (Stockton)

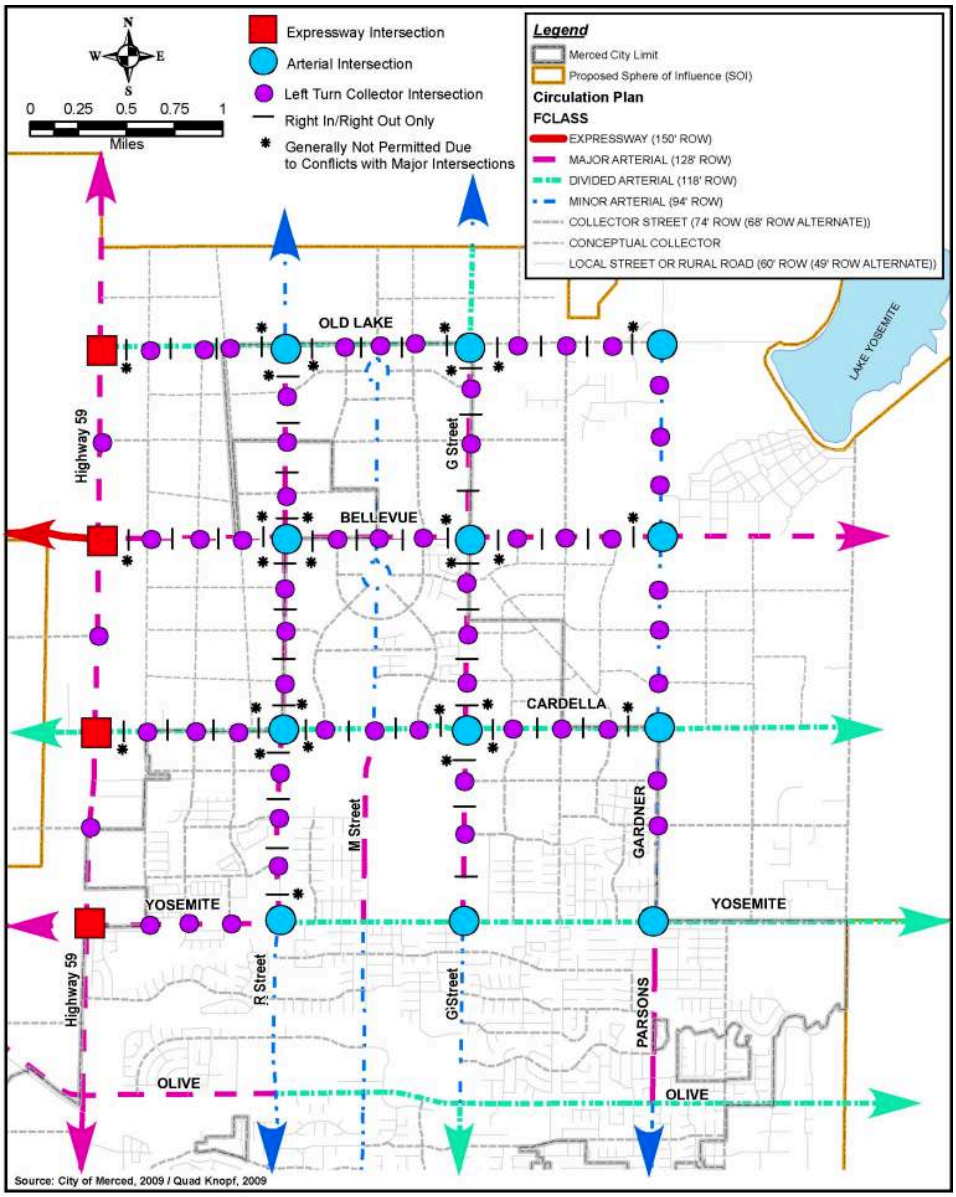
Photo Source: San Joaquin RTD

PUBLIC RIGHT-OF-WAY

Planned Circulation Network

The recently adopted Merced General Plan identifies the key components of the City's planned circulation network.

Figure 2-1 Planned Arterial Grid Network



The planned street network would distribute nearly all traffic via a grid of arterial streets placed one mile apart.

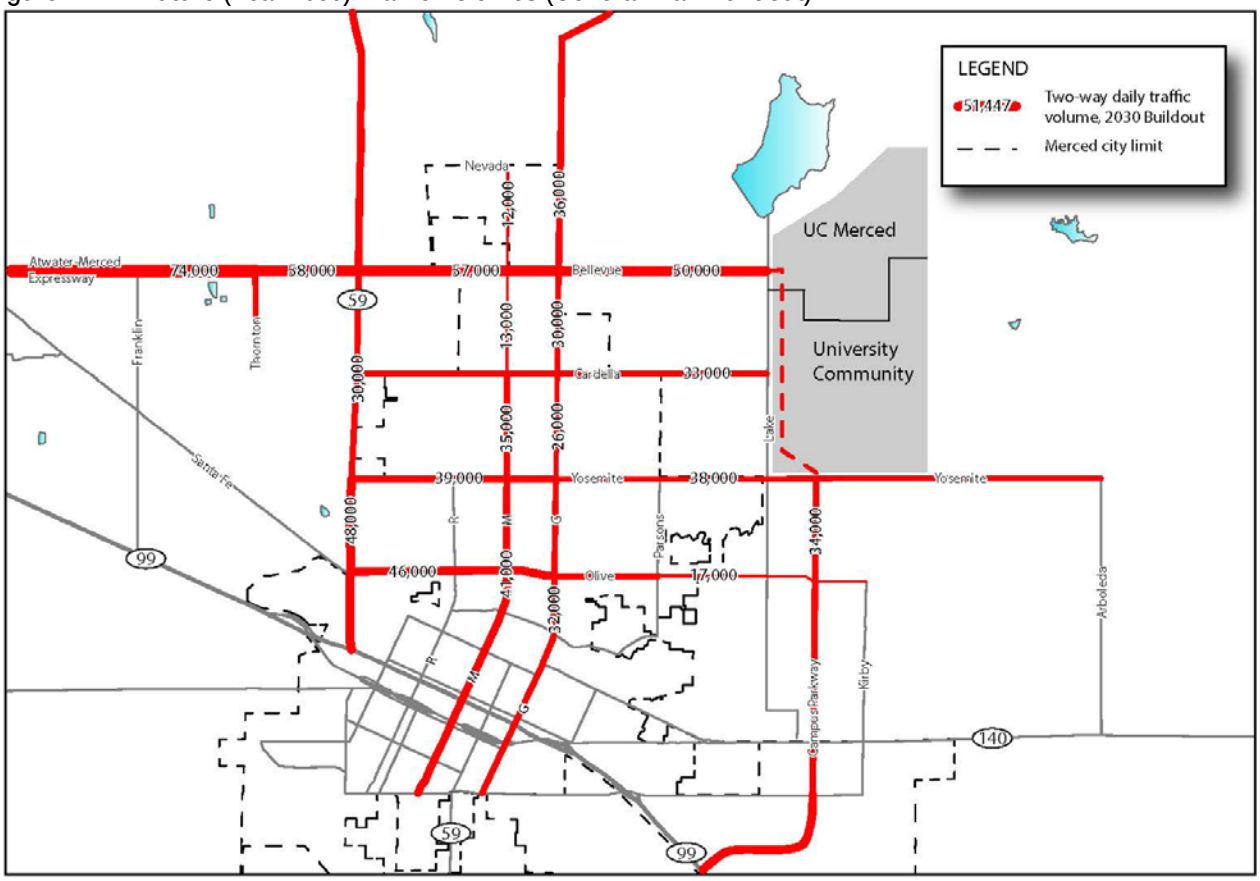
Planned Bikeway Network

The planned bikeway network would primarily follow the same pattern as arterial streets placed one mile apart, with the exception of Cardella Street that was not included in the General Plan bikeway network.

Note: the General Plan bikeway map above was derived from an older map that does not show the precise boundary of the UC Merced campus.

Future Traffic Volumes

Figure 2-2 Future (Year 2030) Traffic Volumes (General Plan Buildout)



Forecasted traffic volumes at buildout of the General Plan land uses are shown above:

- ***Between 50,000 and 60,000 daily vehicles on Bellevue Road*** *within the BCCP area*
  - *This volume of traffic will typically require a* ***6-lane configuration*** *(and/or 8 lanes in some cases). Alternatively: the City could consider modifying the planned one-mile grid in this area to include a "half-mile" network of arterial and collector streets to better disperse traffic and reduce the ultimate width requirement for Bellevue Road.*
  - *Note: this traffic forecast is based on potentially ambitious land use assumptions*

- ***Between 30,000 and 40,000 daily vehicles on Cardella Road, and over 30,000 daily vehicles on G Street***
    - *This volume of traffic will typically require a* ***4-lane configuration***

The planned, high volume of traffic on the planned arterials may not be conducive with the goal of creating walkable "complete streets" bordered by transit-supportive land uses. *As part of the BCCP effort, the City may wish to consider a "dispersal" strategy with the BCCP area. For example: creation of a "half-mile grid" of Mixed Use Collector streets (to augment the one-mile grid of Arterial Streets) within the BCCP area can help to disperse traffic that would access potential mixed-use development, and reduce volumes on the adjacent arterials.*

Planned Street Design (General Plan Cross-sections)

Figure 2-3A Expressway (General Plan Drawing)

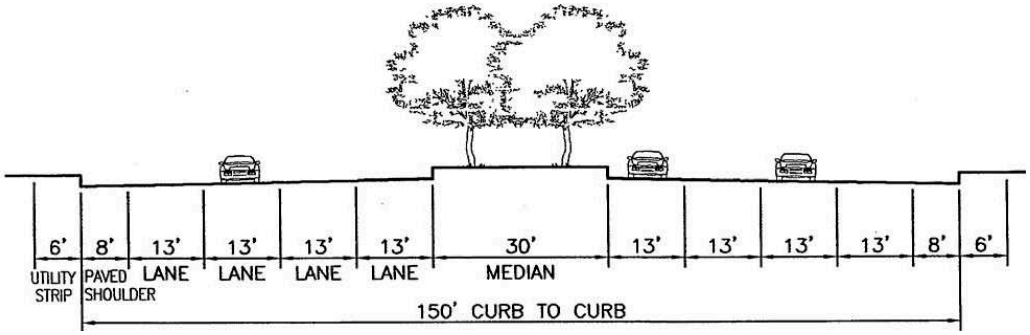
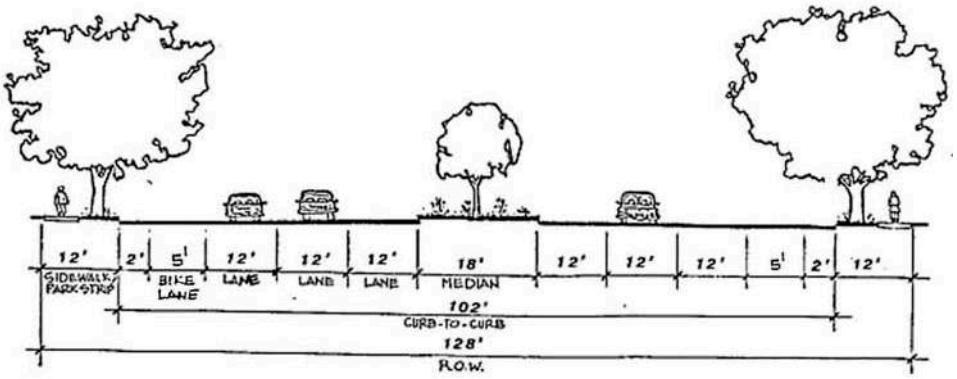


Figure 2-3B Major Arterial (General Plan Drawing)



Based on forecasted traffic volumes on Bellevue Road: an Expressway or Major Arterial alignment (as shown above) may ultimately be required to satisfy level of standards (LOS) at buildout. Alternatively, the potential need for a 6-lane alignment could be reduced by dispersing a potion of traffic to "Mixed Use Collectors".

Figure 2-3C Divided Arterial (General Plan Drawing)

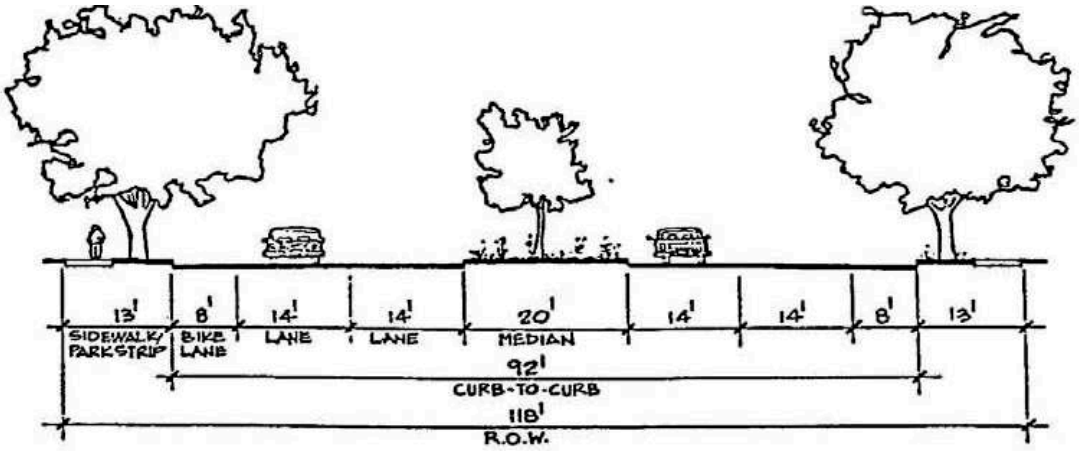


Figure 2-3D Minor Arterial (General Plan Drawing)

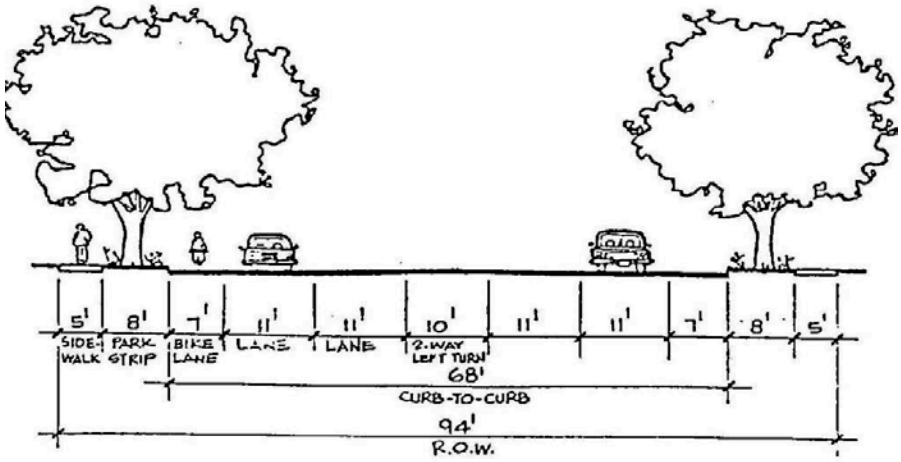
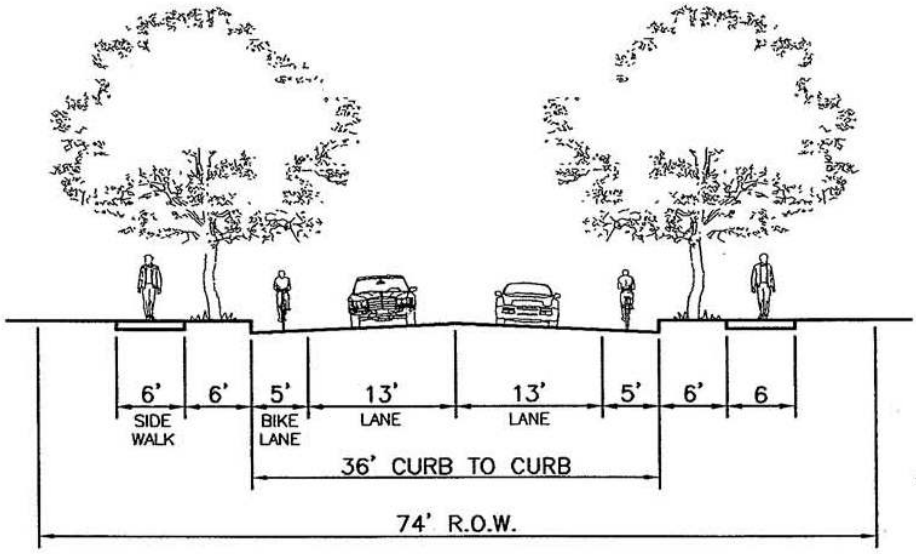


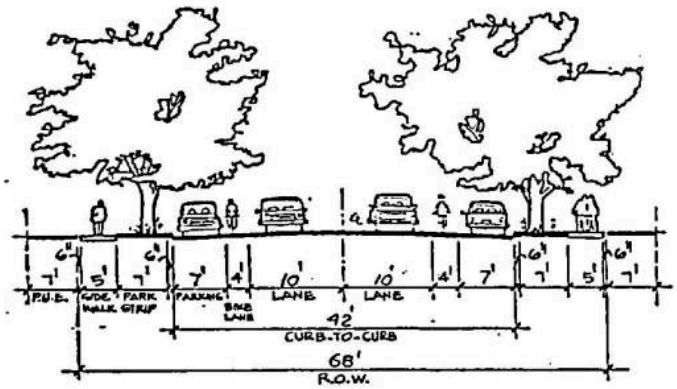
Figure 2-3E Transitway (General Plan Drawing)



"Transit Only" Segment

As shown in the General Plan: the Transitway is designated as a "Transit Only" facility (although the General Plan drawing suggests its use will not limited only to transit vehicles).

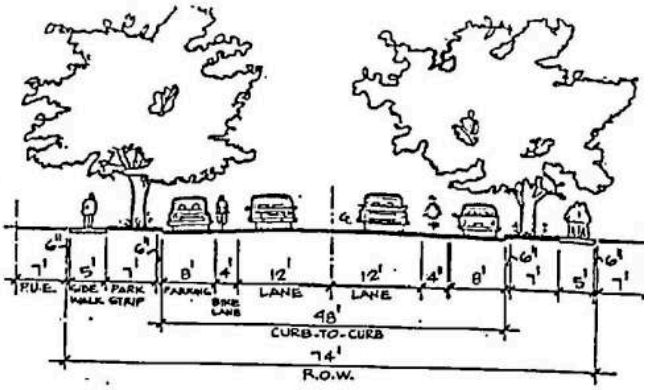
Figure 2-3F Collector (General Plan Drawing)



Collector Street Alternate

NOTES FOR ALTERNATE COLLECTOR:

1) 68 feet of right-of-way may be permitted where supported by a traffic analysis to assure that the narrower street would not be overloaded. Analysis would include trip generation and distribution based on existing and future land use and circulation system. Additional width may be necessary at intersection where analysis shows need for turn lane(s).
2) Fronting lots would be permitted on collectors where a traffic analysis shows daily traffic volumes will not exceed 1,500 vehicles under ultimate conditions.
3) On-street parking may be deleted if adequate, convenient off-street parking is provided in a subdivision design.
4) A subdivision design with deletion of on-street bike lanes may be permitted if adequate, convenient Class I bikepath is available.



Collector

The General Plan description of Collector Streets is limited to Residential Collectors only (i.e., non-residential collector streets are not envisioned to be built with new development). *As part of the BCCP effort: the City may wish to consider allowing a "Mixed Use Collector" street type to allow for a dispersal of a portion of traffic from Bellevue Road.*

Figure 2-4 Street Type Summary Table (General Plan)

Road Classification	*Right-of-Way*	*# of Lanes*	*Driveway Access Restrictions*	*Street Intersection Spacing*	*Parking*
Expressway (Atwater-Merced & Campus Parkway)	150	4-6	Full	1/2 – 1 mile	No
Major Arterial	128 feet	4-6	Full	1/4 - 1/2 mile	No
Arterial	128 feet	4-6	[1]Partial	1/4 - 1/2 mile	No
Divided Arterial	118 feet	4-6	[1]Partial	1/4 - 1/2 mile	No
Minor Arterial	94 feet	2-4	[1]Partial	1/8 - 1/4 mile	Generally Not Permitted
Major Collector	[2]68-74 ft	2-4	[3]Partial	As needed	[3]Permitted in Selected Areas
Collector	68 ft	2	[4]Partial	As needed	[4]Permitted in Selected Areas
Local	[5]51-62 ft	2	No	As needed	Permitted
Transitway	[6]Varies	2-6	[6]Varies	[6]Varies	[6]Varies

Constraints & Opportunities Related to TPP

What does a high-volume street look like?

This section several photo examples of high-volume streets relevant to the potential design of Bellevue Road, forecasted to carry between 50,000 and 60,000 daily vehicles within the BCCP area.

Expressway Example: Lawrence Expressway

The following images captured from Google Streetview provide an indication of the general nature of the Lawrence Expressway in Sunnyvale, California. It is clearly very much an auto-dominated streetscape, with narrow bike lanes and relatively narrow sidewalks with no planted strip separation from the street. In its favor, signalized intersections with crosswalks are closely spaced which makes for an easier walking experience than if the street had ½ mile spacing between intersections.

Figure 2-5 High Volume Expressway Example: Lawrence Expressway (Photos)

Lawrence Expressway at Bollinger Road

Source: Google Maps Streetview, © Google 2012

Lawrence Expressway at Lehigh Drive (Kaiser Permanente)

Source: Google Maps Streetview, © Google 2012

Lawrence Expressway at Miraloma Way

Source: Google Maps Streetview, © Google 2012

Lawrence Expressway at Prospect Road

Source: Google Maps Streetview, © Google 2012

As shown in the photos above: ***expressway designs are generally not conducive to the creation of walkable corridors with transit-oriented land uses****. As a result: the City may wish to relocate the proposed Transitway corridor (through the BCCP area) to a lower-volume parallel route.*

High-volume Street Example: Octavia Boulevard

Figure 2-6 Boulevard Example: Octavia Boulevard Cross Section

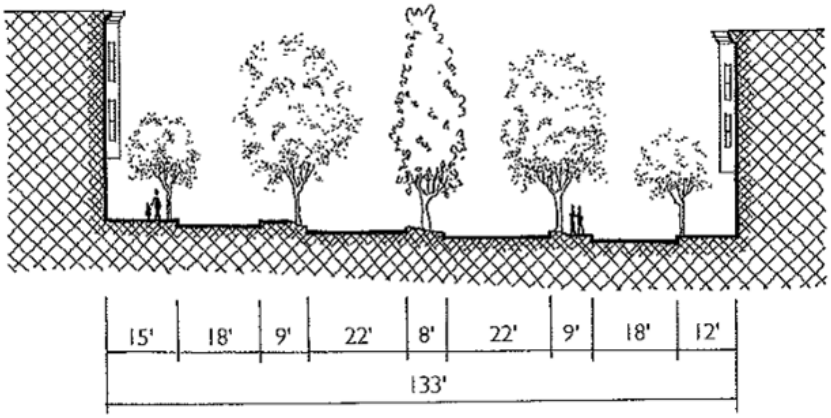


Figure 2-7 Boulevard Example: Octavia Boulevard (Photos)

Octavia Boulevard in San Francisco carries 45,000 daily vehicles with just four travel lanes within a 133-foot wide right-of-way that also accommodate on-street parking within a "boulevard configuration". *A variation of this configuration could be considered as part of a "complete street" strategy for Bellevue Road.*

Lower Volume Street Example: Valencia Street

Valencia Street in San Francisco carries 20,000 daily vehicles and 5,000 daily bicyclists, as well as a very high volumes of pedestrians, with just 2 motor vehicle lanes within a 62.5 foot right-of-way.

- A key advantage of the narrower right-of-way is that relatively short 60-second signal cycles can efficiently accommodate vehicle and pedestrian movements.
- Wider streets, by contrast, require lengthier 90 to 120 second cycles, resulting in lengthier vehicle queues and extended delays, including longer waits for pedestrians between "WALK" intervals.

Figure 2-8 Complete Street Example: Valencia Street (Photo)

Source: Google Maps Streetview, © Google 2012

This 2-lane segment of Valencia Street in San Francisco carries 20,000 daily cars and 5,000 daily bicyclists, within a 62-foot wide right-of-way.

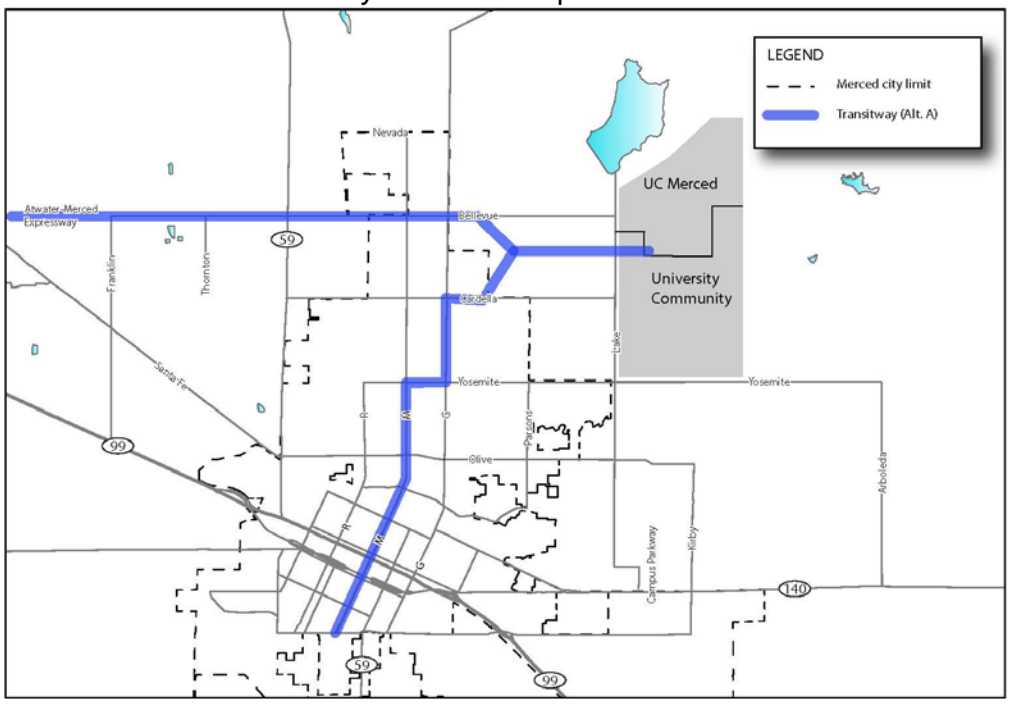
In comparison, planned streets in Merced that would carry similar traffic volumes are generally envisioned to include 4 lanes within a wider right-of-way, no on-street parking, longer walking distances and land uses set further back from the sidewalk.

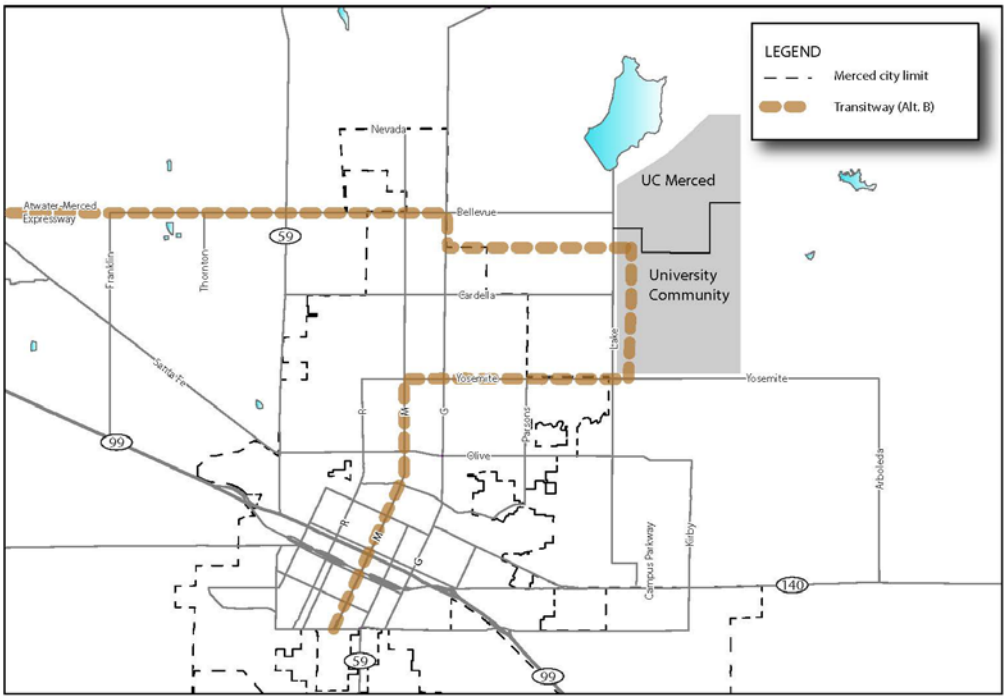
To allow a similar street and land use configuration with the BCCP area (including on-street parking): the City may wish to consider allowing the introduction of a new street type: Mixed Use Collectors.

2. Preliminary Recommendations

Transitways

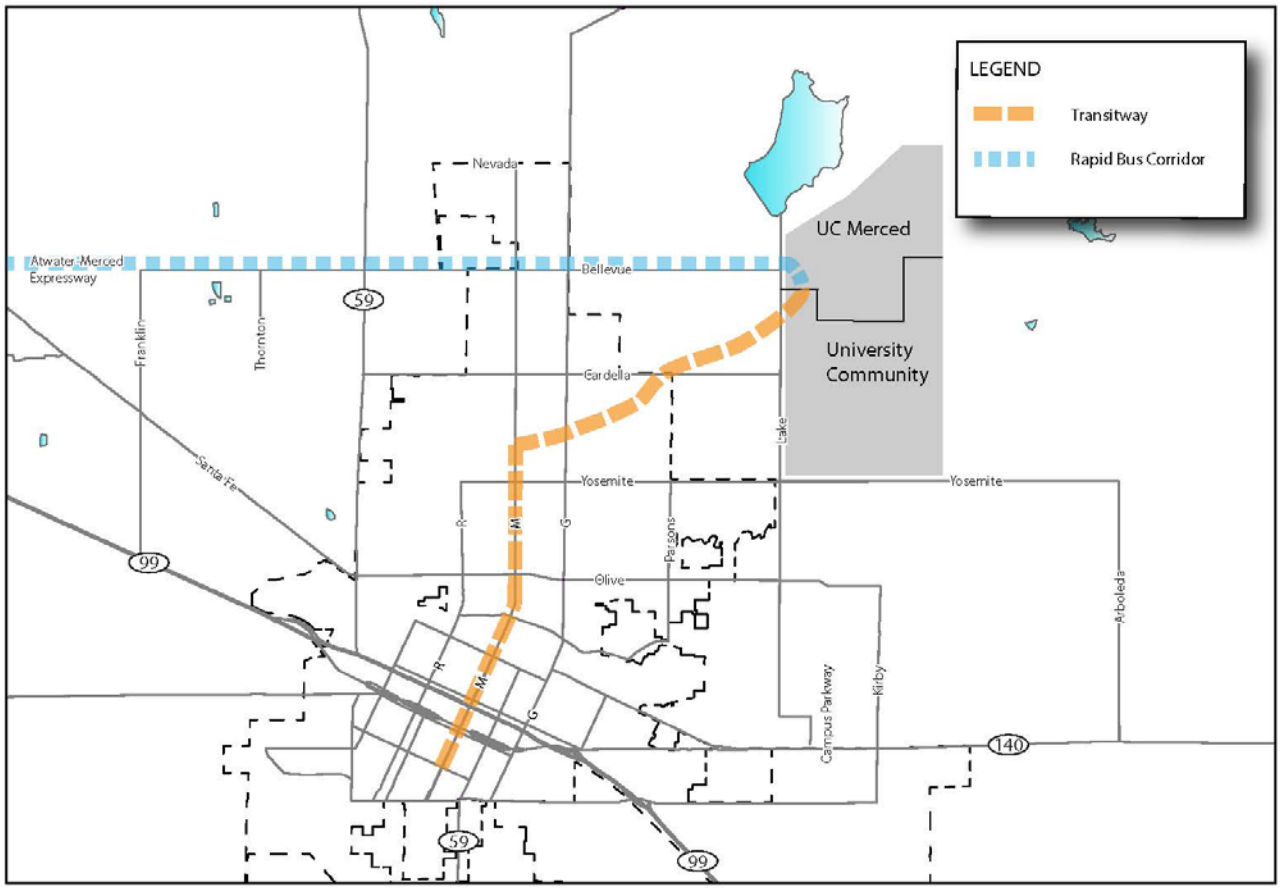
Figure 3-1 Alternative Transitway Corridor Concepts





Alternative transitway corridors shown above would provide for more direct connections between Downtown and UC Merced. See Figure 3-2 below for a modified concept.

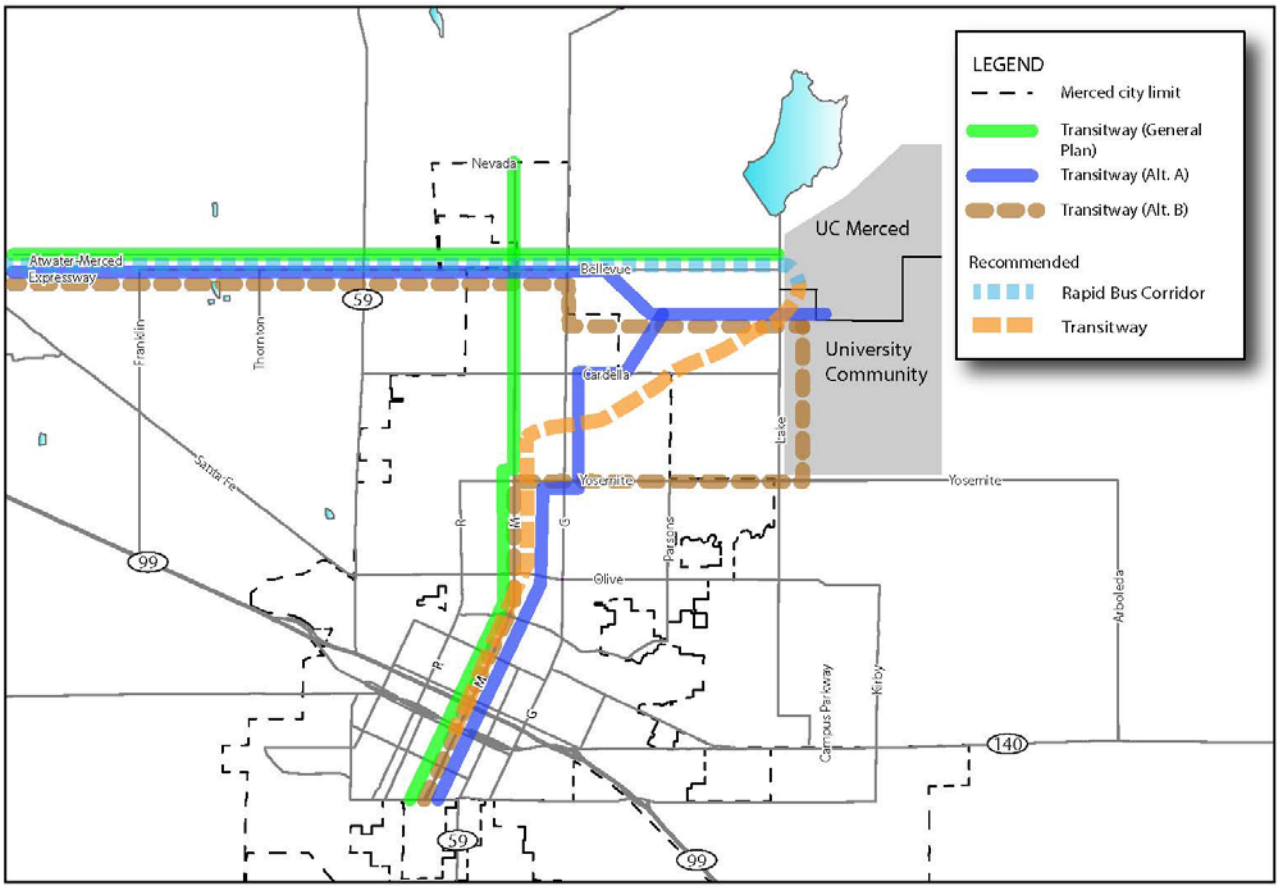
Figure 3-2 Modified Transitway Corridors for BCCP (Concept)



As shown above: modification of the planned Transitway could include:

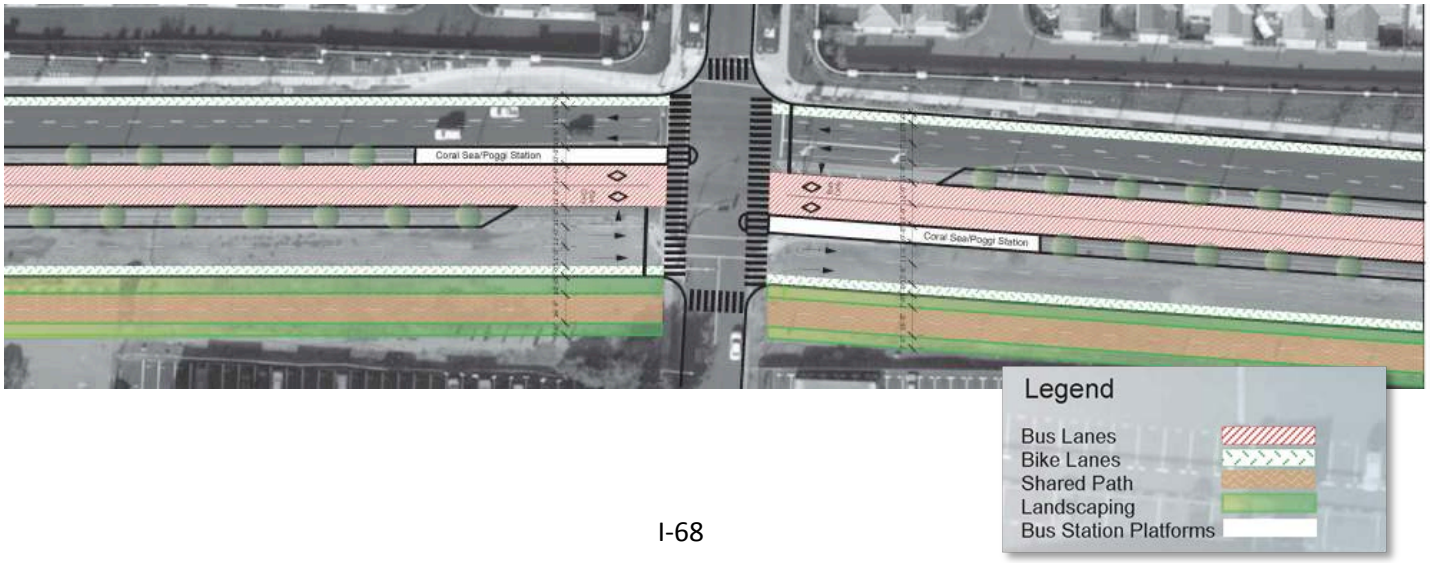
1. ***Transitway Corridor for potential Bus Rapid Transit (BRT) with dedicated bus lanes between Downtown Merced and UC Merced*** *via M Street and an alternate "diagonal" configuration to serve the medical center and potential mixed-use development south of Bellevue Road (incorporating a portion of the Cardella corridor). See description of Eugene EMX BRT service type option in Section 1 of this report.*
2. ***Transit Corridor for Rapid Bus Service (RBS) with shared travel lanes on Bellevue Road / Atwater Merced Expressway (AME)****. See description of RBS Service options in Section 1 of this report.*

Figure 3-3 Comparison of Transitway Route Options



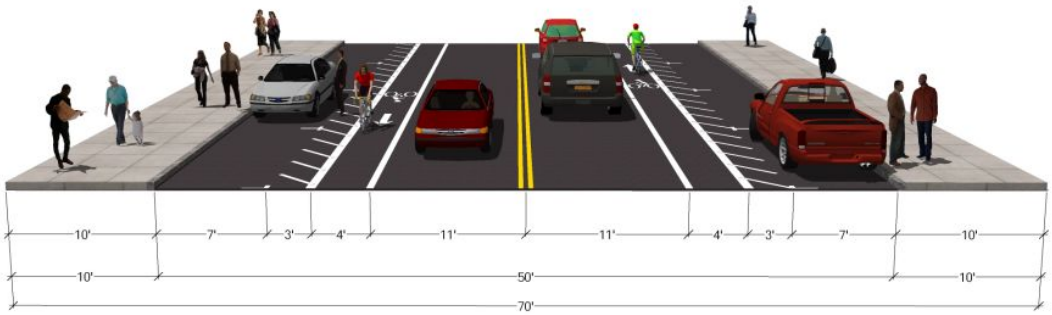
The travel distance between Downtown Merced and UC Merced, based on the Modified Transitway concept shown above, is approximately six (6) miles, representing a potential 15 percent reduction in distance, travel time, operating and construction costs.

Figure 3-4 Transitway Design for Bus Rapid Transit (Concept)



Mixed Use Collectors

Figure 3-5 Mixed Use Collector Concept Drawing



As described in previous sections: the Merced General Plan does not currently specify the provision of Collector Streets as part of non-residential development. ***The BCCP could include creation of a "Mixed Use Collector" street type to support the Plan goals related to complete streets.***

In particular: the provision of collector streets within the BCCP area can help to reduce traffic volumes on portions of Bellevue Road and Cordella Road, ***creating a "half-mile grid" of Arterial and Mixed-Use Collectors within the Plan area, to better disperse future traffic growth and allow for narrower street types (including narrower arterial streets), more conducive to pedestrian circulation.***

Figure 3-6 Mixed Use Collector Prototypes: Downtown Merced

Although not part of the General Plan street types: the creation of Mixed Use Collectors can be modeled after existing, walkable "complete street" segments in Downtown Merced.

APPENDIX A

Transit Priority Project Definition

PUBLIC RESOURCES CODE SECTION 21155-21155.3

21155. (a) This chapter applies only to a transit priority project that is consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, for which the State Air Resources Board, pursuant to subparagraph (H) of paragraph (2) of subdivision (b) of Section 65080 of the Government Code, has accepted a metropolitan planning organization's determination that the sustainable communities strategy or the alternative planning strategy would, if implemented, achieve the greenhouse gas emission reduction targets.

(b) For purposes of this chapter, a transit priority project shall (1) contain at least 50 percent residential use, based on total building square footage and, if the project contains between 26 percent and 50 percent nonresidential uses, a floor area ratio of not less than 0.75; (2) provide a minimum net density of at least 20 dwelling units per acre; and (3) be within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan. A major transit stop is as defined in Section 21064.3, except that, for purposes of this section, it also includes major transit stops that are included in the applicable regional transportation plan. For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. A project shall be considered to be within one-half mile of a major transit stop or high-quality transit corridor if all parcels within the project have no more than 25 percent of their area farther than one-half mile from the stop or corridor and if not more than 10 percent of the residential units or 100 units, whichever is less, in the project are farther than one-half mile from the stop or corridor.

21155.1. If the legislative body finds, after conducting a public hearing, that a transit priority project meets all of the requirements of subdivisions (a) and (b) and one of the requirements of subdivision (c), the transit priority project is declared to be a sustainable communities project and shall be exempt from this division.

(a) The transit priority project complies with all of the following environmental criteria:

(1) The transit priority project and other projects approved prior

to the approval of the transit priority project but not yet built can be adequately served by existing utilities, and the transit priority project applicant has paid, or has committed to pay, all applicable in-lieu or development fees.

(2) (A) The site of the transit priority project does not contain wetlands or riparian areas and does not have significant value as a wildlife habitat, and the transit priority project does not harm any species protected by the federal Endangered Species Act of 1973 (16 U.S.C. Sec. 1531 et seq.), the Native Plant Protection Act (Chapter 10 (commencing with Section 1900) of Division 2 of the Fish and Game Code), or the California Endangered Species Act (Chapter 1.5 (commencing with Section 2050) of Division 3 of the Fish and Game Code), and the project does not cause the destruction or removal of any species protected by a local ordinance in effect at the time the application for the project was deemed complete.

(B) For the purposes of this paragraph, "wetlands" has the same meaning as in the United States Fish and Wildlife Service Manual, Part 660 FW 2 (June 21, 1993).

(C) For the purposes of this paragraph:

(i) "Riparian areas" means those areas transitional between terrestrial and aquatic ecosystems and that are distinguished by gradients in biophysical conditions, ecological processes, and biota. A riparian area is an area through which surface and subsurface hydrology connect waterbodies with their adjacent uplands. A riparian area includes those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems. A riparian area is adjacent to perennial, intermittent, and ephemeral streams, lakes, and estuarine-marine shorelines.

(ii) "Wildlife habitat" means the ecological communities upon which wild animals, birds, plants, fish, amphibians, and invertebrates depend for their conservation and protection.

(iii) Habitat of "significant value" includes wildlife habitat of national, statewide, regional, or local importance; habitat for species protected by the federal Endangered Species Act of 1973 (16 U.S.C. Sec. 1531, et seq.), the California Endangered Species Act (Chapter 1.5 (commencing with Section 2050) of Division 3 of the Fish and Game Code), or the Native Plant Protection Act (Chapter 10 (commencing with Section 1900) of Division 2 of the Fish and Game Code); habitat identified as candidate, fully protected, sensitive, or species of special status by local, state, or federal agencies; or habitat essential to the movement of resident or migratory wildlife.

(3) The site of the transit priority project is not included on any list of facilities and sites compiled pursuant to Section 65962.5 of the Government Code.

(4) The site of the transit priority project is subject to a preliminary endangerment assessment prepared by an environmental assessor to determine the existence of any release of a hazardous substance on the site and to determine the potential for exposure of future occupants to significant health hazards from any nearby property or activity.

(A) If a release of a hazardous substance is found to exist on the site, the release shall be removed or any significant effects of the release shall be mitigated to a level of insignificance in compliance with state and federal requirements.

(B) If a potential for exposure to significant hazards from

surrounding properties or activities is found to exist, the effects of the potential exposure shall be mitigated to a level of insignificance in compliance with state and federal requirements.

(5) The transit priority project does not have a significant effect on historical resources pursuant to Section 21084.1.

(6) The transit priority project site is not subject to any of the following:

(A) A wildland fire hazard, as determined by the Department of Forestry and Fire Protection, unless the applicable general plan or zoning ordinance contains provisions to mitigate the risk of a wildland fire hazard.

(B) An unusually high risk of fire or explosion from materials stored or used on nearby properties.

(C) Risk of a public health exposure at a level that would exceed the standards established by any state or federal agency.

(D) Seismic risk as a result of being within a delineated earthquake fault zone, as determined pursuant to Section 2622, or a seismic hazard zone, as determined pursuant to Section 2696, unless the applicable general plan or zoning ordinance contains provisions to mitigate the risk of an earthquake fault or seismic hazard zone.

(E) Landslide hazard, flood plain, flood way, or restriction zone, unless the applicable general plan or zoning ordinance contains provisions to mitigate the risk of a landslide or flood.

(7) The transit priority project site is not located on developed open space.

(A) For the purposes of this paragraph, "developed open space" means land that meets all of the following criteria:

(i) Is publicly owned, or financed in whole or in part by public funds.

(ii) Is generally open to, and available for use by, the public.

(iii) Is predominantly lacking in structural development other than structures associated with open spaces, including, but not limited to, playgrounds, swimming pools, ballfields, enclosed child play areas, and picnic facilities.

(B) For the purposes of this paragraph, "developed open space" includes land that has been designated for acquisition by a public agency for developed open space, but does not include lands acquired with public funds dedicated to the acquisition of land for housing purposes.

(8) The buildings in the transit priority project are 15 percent more energy efficient than required by Chapter 6 of Title 24 of the California Code of Regulations and the buildings and landscaping are designed to achieve 25 percent less water usage than the average household use in the region.

(b) The transit priority project meets all of the following land use criteria:

(1) The site of the transit priority project is not more than eight acres in total area.

(2) The transit priority project does not contain more than 200 residential units.

(3) The transit priority project does not result in any net loss in the number of affordable housing units within the project area.

(4) The transit priority project does not include any single level building that exceeds 75,000 square feet.

(5) Any applicable mitigation measures or performance standards or criteria set forth in the prior environmental impact reports, and

adopted in findings, have been or will be incorporated into the transit priority project.

(6) The transit priority project is determined not to conflict with nearby operating industrial uses.

(7) The transit priority project is located within one-half mile of a rail transit station or a ferry terminal included in a regional transportation plan or within one-quarter mile of a high-quality transit corridor included in a regional transportation plan.

(c) The transit priority project meets at least one of the following three criteria:

(1) The transit priority project meets both of the following:

(A) At least 20 percent of the housing will be sold to families of moderate income, or not less than 10 percent of the housing will be rented to families of low income, or not less than 5 percent of the housing is rented to families of very low income.

(B) The transit priority project developer provides sufficient legal commitments to the appropriate local agency to ensure the continued availability and use of the housing units for very low, low-, and moderate-income households at monthly housing costs with an affordable housing cost or affordable rent, as defined in Section 50052.5 or 50053 of the Health and Safety Code, respectively, for the period required by the applicable financing. Rental units shall be affordable for at least 55 years. Ownership units shall be subject to resale restrictions or equity sharing requirements for at least 30 years.

(2) The transit priority project developer has paid or will pay in-lieu fees pursuant to a local ordinance in an amount sufficient to result in the development of an equivalent number of units that would otherwise be required pursuant to paragraph (1).

(3) The transit priority project provides public open space equal to or greater than five acres per 1,000 residents of the project.

21155.2. (a) A transit priority project that has incorporated all feasible mitigation measures, performance standards, or criteria set forth in the prior applicable environmental impact reports and adopted in findings made pursuant to Section 21081, shall be eligible for either the provisions of subdivision (b) or (c).

(b) A transit priority project that satisfies the requirements of subdivision (a) may be reviewed through a sustainable communities environmental assessment as follows:

(1) An initial study shall be prepared to identify all significant or potentially significant impacts of the transit priority project, other than those which do not need to be reviewed pursuant to Section 21159.28 based on substantial evidence in light of the whole record. The initial study shall identify any cumulative effects that have been adequately addressed and mitigated pursuant to the requirements of this division in prior applicable certified environmental impact reports. Where the lead agency determines that a cumulative effect has been adequately addressed and mitigated, that cumulative effect shall not be treated as cumulatively considerable for the purposes of this subdivision.

(2) The sustainable communities environmental assessment shall

contain measures that either avoid or mitigate to a level of insignificance all potentially significant or significant effects of the project required to be identified in the initial study.

(3) A draft of the sustainable communities environmental assessment shall be circulated for public comment for a period of not less than 30 days. Notice shall be provided in the same manner as required for an environmental impact report pursuant to Section 21092.

(4) Prior to acting on the sustainable communities environmental assessment, the lead agency shall consider all comments received.

(5) A sustainable communities environmental assessment may be approved by the lead agency after conducting a public hearing, reviewing the comments received, and finding that:

(A) All potentially significant or significant effects required to be identified in the initial study have been identified and analyzed.

(B) With respect to each significant effect on the environment required to be identified in the initial study, either of the following apply:

(i) Changes or alterations have been required in or incorporated into the project that avoid or mitigate the significant effects to a level of insignificance.

(ii) Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.

(6) The legislative body of the lead agency shall conduct the public hearing or a planning commission may conduct the public hearing if local ordinances allow a direct appeal of approval of a document prepared pursuant to this division to the legislative body subject to a fee not to exceed five hundred dollars ($500).

(7) The lead agency's decision to review and approve a transit priority project with a sustainable communities environmental assessment shall be reviewed under the substantial evidence standard.

(c) A transit priority project that satisfies the requirements of subdivision (a) may be reviewed by an environmental impact report that complies with all of the following:

(1) An initial study shall be prepared to identify all significant or potentially significant effects of the transit priority project other than those that do not need to be reviewed pursuant to Section 21159.28 based upon substantial evidence in light of the whole record. The initial study shall identify any cumulative effects that have been adequately addressed and mitigated pursuant to the requirements of this division in prior applicable certified environmental impact reports. Where the lead agency determines that a cumulative effect has been adequately addressed and mitigated, that cumulative effect shall not be treated as cumulatively considerable for the purposes of this subdivision.

(2) An environmental impact report prepared pursuant to this subdivision need only address the significant or potentially significant effects of the transit priority project on the environment identified pursuant to paragraph (1). It is not required to analyze off-site alternatives to the transit priority project. It shall otherwise comply with the requirements of this division.

21155.3. (a) The legislative body of a local jurisdiction may adopt traffic mitigation measures that would apply to transit priority projects. These measures shall be adopted or amended after a public hearing and may include requirements for the installation of traffic control improvements, street or road improvements, and contributions to road improvement or transit funds, transit passes for future residents, or other measures that will avoid or mitigate the traffic impacts of those transit priority projects.

(b) (1) A transit priority project that is seeking a discretionary approval is not required to comply with any additional mitigation measures required by paragraph (1) or (2) of subdivision (a) of Section 21081, for the traffic impacts of that project on intersections, streets, highways, freeways, or mass transit, if the local jurisdiction issuing that discretionary approval has adopted traffic mitigation measures in accordance with this section.

(2) Paragraph (1) does not restrict the authority of a local jurisdiction to adopt feasible mitigation measures with respect to the effects of a project on public health or on pedestrian or bicycle safety.

(c) The legislative body shall review its traffic mitigation measures and update them as needed at least every five years.

REPORT 3:

Complete Streets

January 24, 2013

CONTENTS

1. Purpose of Memorandum

2. Implementation and Recommendations

2.1 Research, Collect, and Assess existing "Complete Streets" *Merced Vision 2030 General Plan* Policies

2.2 Recommendations for how to implement the Merced General Plan complete street related policies and implementing actions.

2.3 Listing of community plan specific "Complete Streets" policies for later consideration.

3. Bibliography and Acknowledgements

1. PURPOSE OF MEMORANDUM

This memorandum addresses how complete street policies will be developed and implemented in the BCCP. The BCCP will need to result in a comprehensive approach that achieves the goals for the Bellevue area as well as those of the City as a whole.

In order to generate and apply appropriate "complete street" policies for the BCCP area, the following actions are necessary:

- Research, collect, and assess existing "Complete Streets" Merced Vision 2030 General Plan Policies
- Provide recommendations for how to implement the Merced General Plan complete street related policies and implementing actions. This will include specific ideas that can be used to craft prescriptive right-of-way cross sections and design templates for all Plan area streets and adjacent public and semi-public spaces
- Listing of community plan specific "Complete Streets" policies for later consideration
- A transportation-related vision supported by the community that can be articulated in enough detail in the BCCP to guide development

The analysis in this Memorandum addresses the first three steps above. The analysis is in narrative format to expose and discuss issues that need to be clarified in order to move forward confidently. Based on community input through the public process, the consultant team will then work with the community to prepare the fourth item, the transportation-related vision for the BCCP area. The vision will then be turned into part of the transportation chapter of the Bellevue Corridor Community Plan, containing specific goals, policies, and implementing actions.

2. IMPLEMENTATION AND RECOMMENDATIONS

2.1 Research, Collect, and Assess existing "Complete Streets" *Merced Vision 2030 General Plan* Policies

2.1.1 Introduction

For many reasons, the State of California AB 1358, *The California Complete Streets Act*, was passed and gives direction to local governments to address "complete streets" in their general plans. This section discusses the benefits of complete streets, state legislation and policies, and the City of Merced's existing "complete streets" policies.

2.1.2 What are Multimodal Transportation Networks, otherwise known as complete streets?

Multimodal transportation networks allow for all modes of travel including walking, bicycling, and transit to be used to reach key destinations in a community and region safely and directly. Jurisdictions can use complete streets design to construct networks of safe streets that are accessible to all modes and all users no matter their age or ability. Complete streets are defined by various interest groups and Caltrans below:

- **The National Complete Streets Coalition**
  Complete streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists, and transit riders of all ages and abilities must be able to safely move along and across a complete street. Creating complete streets means transportation agencies must change their orientation toward building primarily for cars. Instituting a complete streets policy ensures that transportation agencies routinely design and operate the entire right of way to enable safe access for all users.

- **The American Planning Association (APA)**
  Complete streets serve everyone – pedestrians, bicyclists, transit riders, and drivers – and they take into account the needs of people with disabilities, older people, and children. The complete streets movement seeks to change the way transportation agencies and communities approach every street project and ensure safety, convenience, and accessibility for all.

- **The California Department of Transportation (Caltrans)**
  A transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit vehicles, truckers, and motorists, appropriate to the function and context of California Department of Transportation (Caltrans) Complete Streets Policy:

  The *California Department of Transportation Deputy Directive 64-Revision #1: 'Complete Streets: Integrating the Transportation System'* (DD-64-R1) was released on October 2, 2008.

DD-64-R1 directs Caltrans staff to support increased mobility and access for all Californians on Caltrans built and maintained roads.

2.1.3 Potential Benefits of Multimodal Transportation Networks

Access to public space is critical to safe, healthy, and prosperous communities. Successful implementation of a comprehensive *complete street* program can accomplish numerous public benefits:

- **Supporting Existing Businesses**

  A network of complete streets can be safer and more appealing to residents and visitors, which can benefit retail and commercial development. Streets designed to maximize social value, also spurs healthy economic exchange. In this way, multimodal streets can improve conditions for existing businesses by helping revitalize an area and attracting new economic activity.

- **Reduced Public and Private Costs**

  Integrating sidewalks, bike facilities, transit amenities, and safe crossings in the early planning phases of roadway construction in both residential and commercial development reduces the complexity and costs of attempting to retrofit years later.

- **Business Attraction**

  Communities that support "complete streets" strive to create amenities that will enhance the quality of life of its residents, improve the physical and social environment in ways that attract businesses and workers, and contribute to economic development. In this way, streets become arteries distributing prosperity. Streets that invite social interaction are more likely to ensure prosperous growth...

- **Development Potential**

  Population growth will put greater demands on existing streets. If streets continue to largely function to move people traveling in motor vehicles, they will not be able to accommodate this growth. Streets will need to enable people to do more while traveling less and to travel more efficiently. Alternatives to single occupant vehicles must also be pursued to provide for the needs of an increasing population.

- **Greenhouse Gas (GHG) Emission Reduction**

  The need to reduce transportation-related GHG emissions was highlighted in the California Air Resources Board's (CARB) *2008 AB 32 Climate Change Scoping Plan*. Transportation accounts for 38 percent of California's GHG emissions. Studies show that even with aggressive state and federal vehicle efficiency standards and the use of alternative fuels, meeting the State's GHG reduction goals will require a shift in the mobility choices of the average Californian.

- **Reduced Traffic-Related Collisions**

  Multimodal transportation networks, using complete streets best practices, can lead to safer travel for all roadway users. Designing streets and travel routes that consider safe travel for all modes can reduce the occurrence and severity of vehicular collisions with pedestrian and bicyclists.

- **Safe Routes to Schools**

  Local multimodal transportation networks address the needs of parents and children by providing safe active transportation options to and from schools. Doing so can reduce vehicle trips, reduce congestion, improve road safety near schools, and increase children's activity rates.

- **Health Benefits**

Multimodal transportation networks that allow people to walk or bicycle as a viable transportation option can promote an active lifestyle. These active transportation modes increase physical activity rates. Frequent exercise is known to reduce obesity rates and lower the risk of heart disease and diabetes. A comprehensive transportation network that allows safe walking and bicycling to multiple destinations, including transit, promotes better health.

- **Air Quality**

  Reducing the amount that people drive by increasing the opportunity for walking, bicycling, and transit also reduces vehicle emissions. Emissions from vehicles are a major contributor to poor air quality, which in turn, is a major contributor to health ailments such as asthma. Although poor air quality is not always the cause of asthma, vehicle emissions are a major contributor to asthma related illnesses.

- **Mobility Options**

  Multimodal transportation networks provide options and increase mobility for people who cannot or do not drive to stay connected to their communities. This is especially important for people with disabilities and for all people as they age. Without alternatives to the automobile, these individuals can easily become socially isolated; unable to access essential resources such as grocery stores, houses of worship, and medical care.

2.1.4 The California Complete Streets Act (AB 1358) [1]

On September 30, 2008, Governor Arnold Schwarzenegger signed Assembly Bill 1358, the California Complete Streets Act. The Act states: "In order to fulfill the commitment to reduce greenhouse gas emissions, make the most efficient use of urban land and transportation infrastructure, and improve public health by encouraging physical activity, transportation planners must find innovative ways to reduce vehicle miles traveled (VMT) and to shift from short trips in the automobile to biking, walking, and use of public transit."

The legislation impacts local general plans by adding the following language to Government Code Section 65302(b)(2)(A) and (B):

A. Commencing January 1, 2011, upon any substantial revision of the circulation element, the legislative body shall modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan.

B. For the purposes of this paragraph, "users of streets, roads, and highways" means bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors.

2.1.5 California Department of Transportation (Caltrans) Complete Streets ` Policy:

The *California Department of Transportation Deputy Directive 64-Revision #1: 'Complete Streets: Integrating the Transportation System'* (DD-64-R1) was released on October 2, 2008. DD-64-R1 directs Caltrans staff to support increased mobility and access for all Californians on Caltrans built and maintained roads. DD-64-R1 states that Caltrans will:

1.

- "Provide for the needs of travelers of all ages and abilities in all planning, programming, design construction, operations, and maintenance activities and products on the State Highway System;
- View transportation improvements (new and retrofit) as opportunities to improve safety, access, and mobility for all travelers and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system;
- Develop integrated multimodal projects in balance with community goals, plans, and values; addressing the safety and mobility needs of bicyclists, pedestrians, and transit users in all projects, regardless of funding;
- Facilitate bicycle, pedestrian, and transit travel by creating "complete streets' beginning early in system planning and continuing through project delivery and maintenance and operations; and,
- Collaborate among all (Caltrans) department functional units and stakeholders to develop a network of complete streets."

DD-64-R1 is limited to Caltrans owned and maintained streets, roads, and highways and focuses on the planning, construction, and maintenance of complete streets and when possible, on the creation of multimodal networks. The goals of DD-64-R1 provide important guidance for the design of streets that make up a local integrated multimodal transportation network.

Caltrans' *Complete Streets Implementation Action Plan* and other information on Caltrans' complete street policies can be found at the following website:

http://www.dot.ca.gov/hq/tpp/offices/ocp/complete_streets.html

2.1.6 City of Merced Complete Street Policies

The Merced Vision 2030 General Plan is a statement of the community's vision of its long-term or ultimate physical form, and is a guiding framework for land use decisions. The heart of the General Plan is the set of integrated and internally consistent "Goals," "Policies," and "Implementing Actions." *Goals* state finished conditions--the community's vision of what should be done and where. *Policies* state the City's clear commitment on how these *Goals* will be achieved. *Implementing Actions* carry out the *Policies* and are specific.

While there are many "Complete Street" Implementing Actions in the City's General Plan that also apply to the BCCP area, the goal and related policies that guide the development of streets for use by all modes of transportation are presented below.

Goal: A Comprehensive System of "Complete Streets" Addressing all Modes of Transportation

Complete-Street Related

Policy T-1.1: Design streets consistent with circulation function, affected land uses, and all modes of transportation.

Policy L-3.1: Create land use patterns that will encourage people to walk, bicycle, or use public transit for an increased number of their daily trips.

Policy UD-1.2: Distribute and design urban villages to promote convenient vehicular, pedestrian, and transit access.

Policy UD-1.1: Apply transit-ready development or urban village design principles to new development in the City's new growth areas.

Policy L-3.3: Promote site designs that encourage walking, cycling, and transit use.

Transit-Related

Policy T-2.1: Provide for and maintain a major transitway along "M" Street and possibly along the Bellevue Road/Merced-Atwater Expressway and Campus Parkway corridors.

Policy T-2.2: Support and enhance the use of public transit.

Policy T-2.3: Support a safe and effective public transit system.

Bike-Related

Policy T-2.4: Encourage the use of bicycles.

Policy T-2.5: Provide convenient bicycle support facilities to encourage bicycle use.

Policy T-2.6: Maintain and expand the community's existing bicycle circulation system.

Policy OS-3.2: Maintain and expand the City's bikeway and trail system.

Pedestrian-Related

Policy T-2.7: Maintain a pedestrian-friendly environment.

Policy T-2.8: Improve planning for pedestrians.

In summary, the City's General Plan envisions that all streets should be designed as "Complete Streets" which address all modes of motorized and non-motorized transportation, including vehicles, transit, pedestrians, and bicycles. These goals and policies form a foundation upon which to design, build, and construct complete streets within the Bellevue Corridor Community Plan.

2.2 Recommendations for How to Implement the Merced General Plan Complete Street Related Policies and Implementing Actions

This section will suggest complete-street approaches and designs for use in crafting prescriptive right-of-way cross sections and design templates for all Plan area streets and adjacent public and semi-public spaces in the Planning Area. Suggested elements of the BCCP Complete Street Program include:

- Street Networks and Classification
- Traveled Way Design
- Intersection Design
- Pedestrian Design
- Bikeway Design
- Transit Accommodations
- Placemaking

Los Angeles County Model Design Manual for Living Streets

Much of Section 2.2 is from the *Los Angeles County Model Design Manual for Living Streets*. Acknowledgement of the individuals who worked to prepare the design manual are listed at the end of the background memorandum on complete streets.

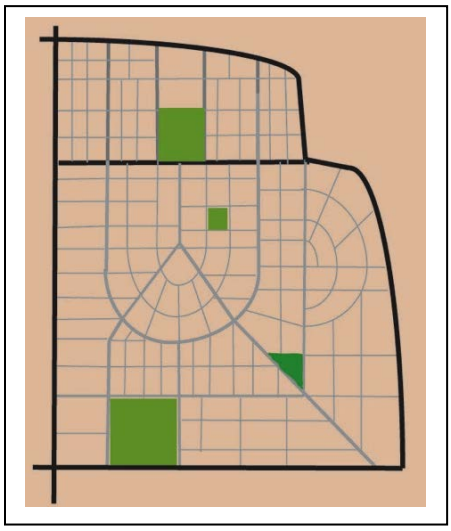
2.2.1 Street Networks and Classification

The chosen street network design of a city is a significant factor in determining whether the environmental, social, and economic needs of its residents can be met. A street network can foster or constrain economic and social activity, enhance or limit social equity in ability to travel and provide or negate a setting for high quality design at all scales: building, neighborhood, and region. Generally, two street networks exist in an urban area, the "Hierarchical" and "Grid" street patterns.

Grid Street Network

Traits

- Highly Connected Streets
- Traffic Dispersed throughout network
- Slower vehicle travel
- Additional road spaces allows for higher density
- The grid street network is built to walking dimensions
- Offers many route choices that connect origins with their destinations



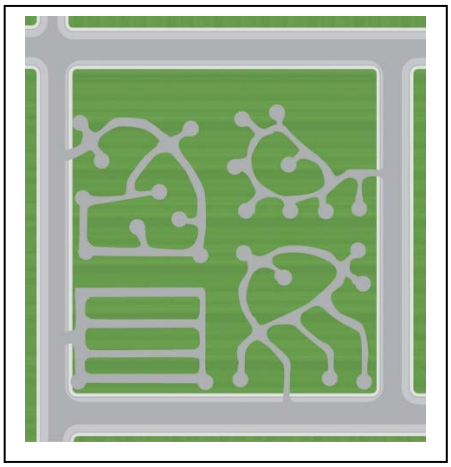
Outcomes

- More conducive to walking and bicycling
- Reduces vehicle miles traveled and associated air pollution impacts
- Low rate of severe car-related injuries
- Quicker response times and reduced service costs
- Compact Urban Form and associated reduced public service costs
- Conservation of farmland and open spaces

Hierarchical Street Network

Traits

- Low Street Connectivity
- Traffic Focused at points and segments
- Higher vehicle speeds
- Street pattern creates amorphous development sites



Outcomes

- Reduced the number of people walking and bicycling
- Increased vehicle miles traveled and associated air pollution impacts
- Higher rate of severe injury
- Challenged fire response time and related costs
- Limits development options

ESSENTIAL PRINCIPLES OF SUSTAINABLE STREET NETWORKS

Complete street networks come in many shapes and forms, but have the following overarching principles in common:

- The complete street network both shapes and responds to the natural and built environment.
- The complete street network privileges trips by foot, bike, and transit.
- The complete street network is built to walking dimensions.
- The complete street network works in harmony with other transportation networks, such as pedestrian, bicycle, transit, and private vehicle networks. Large parts of all of these networks are coincidental with the street network, but if any parts are separate from the street network, they must connect and interact with the network.
- The complete street network protects, respects, and enhances a city's natural features and ecological systems.
- The complete street network maximizes social and economic activity.

Street Types

Federal Highway Function and Classification system contains the conventional classification system that is commonly accepted to define the function and operational requirements for streets. These classifications are also used as the primary basis for geometric design criteria. Traffic volume, trip characteristics, speed and level of service, and other factors in the functional classification system relate to the mobility of motor vehicles, not bicyclists or pedestrians, and do not consider the context or land use of the surrounding environment. This approach, while appropriate for high speed rural and some suburban roadways, does not provide designers with guidance on how to design for living streets or in a context-sensitive manner.

The street types described here provide mobility for all modes of transportation with a greater focus on the pedestrian. The functional classification system can be generally applied to the street types in this document. Designers should recognize the need for greater flexibility in applying design criteria, based more heavily on context and the need to create a safe environment for pedestrians, rather than strictly following the conventional application of functional classification in determining geometric criteria.

Boulevard (conventionally arterials)
A boulevard is a street designed for high vehicular capacity and moderate speed, traversing an urbanized area. Boulevards serve as primary transit routes. Boulevards should have bike lanes. They may be equipped with bus lanes or side access lanes buffering sidewalks and buildings. Many boulevards also have landscaped medians. Boulevards traverse and connect districts and cities, primary a longer distance route for all vehicles, including transit.

Avenue (conventionally collectors)

An avenue is a street of moderate to high vehicular capacity and low to moderate speed acting as a short distance connector between urban centers and may or may not be equipped with a landscaped median. Avenues traverse and connect districts, and links street with boulevards for all vehicles including transit.

Street (conventionally local streets)
A street is a local, multi-movement facility suitable for all urbanized transect zones and all frontages and uses. A street is urban in character, with raised curbs (except where curbless treatments are designed), drainage inlets, wide sidewalks, parallel parking, and trees in individual or continuous planters aligned in an alley. Character may vary in response to the commercial or residential uses lining the street. Streets serves neighborhoods; connects to adjoining neighborhoods and serve local function for vehicles and transit.

Alley/Lane
An alley or lane is a narrow street, often without sidewalks. Alleys and lanes connect streets and can provide access to the backs of buildings and garages.

Main Street
Main streets feature slower vehicle speeds, favor pedestrians most, contain the highest level of streetscape features, and are typically dominated by retail and other commercial uses Main Streets function differently than other streets in that it is a destination.

Bike Boulevard
A Bike Boulevard is a through street for bicycles, but short distance travel for motor vehicles. Bike Boulevards are usually local streets with low traffic volumes

Festival Street
Festival Streets contain traffic calming, flush curbs, and streetscape features that allow for easy conversion to public uses such as farmers' markets and music events.

2.2.2 Traveled Way Design

Streets and their geometric design have traditionally focused on the movement of motor vehicles, resulting in street environments that neglect other users. This emphasis can be seen in wide travel lanes, large corner radii, and turn lanes that severely impede the safety of pedestrians and the overall connectivity for non-automobile users. The geometric design of the traveled way and intersections has usually reflected the need to move traffic as quickly as possible. A paradigm shift needs to occur to reclaim the public right-of-way for pedestrians and bicyclists and create living streets.

Traveled way design in this chapter is defined as the part of the street right-of-way between the two faces of curbs and can include parking lanes, bicycle lanes, transit lanes, general use travel lanes, and medians. The design of the traveled way is critical to the design of the entire street right-of-way because it affects not just the users in the traveled way, but those using the entire right-of-way, including the areas adjacent to the street.

As a note on terminology, "traveled way" in this document is more or less the equivalent of "roadway" in most conventional design manuals: the curb-to-curb portion of a curbed street.

ESSENTIAL PRINCIPLES OF TRAVELED WAY DESIGN

The following key principles should be kept in mind for a well-designed traveled way:

- **Design to accommodate all users.** Street design should accommodate *all* users of the street, including pedestrians, bicyclists, transit users, automobiles, and commercial vehicles. A well-designed traveled way provides appropriate space for all street users to coexist.
- **Design using the appropriate speed for the surrounding context.** The right design speed should respect the desired role and responsibility of the street, including the type and intensity of land use, urban form, the desired activities on the sidewalk, such as outdoor dining, and the overall safety and comfort of pedestrians and bicyclists. The speed of vehicles impacts all users of the street and the livability of the surrounding area. Lower speeds reduce crashes and injuries.

Senior citizens need more time to cross the street (Credit: Ryan Snyder)

- **Design for safety.** The safety of all street users, especially the most vulnerable users (children, the elderly, and disabled) and modes (pedestrians and bicyclists) should be paramount in any design of the traveled way. The safety of streets can be dramatically improved through appropriate geometric design and operations.

CROSS SECTIONAL ELEMENTS

Living street design treats streets as part of the public realm. The street portion of the public realm is shaped by the features and cross section elements used in creating the street. Attention to what features are included, where they are placed, and how the cross section elements are assembled is necessary.

On-Street Parking

On street parking can be important in the urban environment for the success of the retail businesses that line the street and to provide a buffer for pedestrians and help calm traffic speeds. On-street parking occupies about half the surface area per car compared to off-street, which requires driveways and aisles for access and maneuvering. However, cities should manage demand for on-street parking by charging market-rate prices. Free or underpriced parking encourages people to drive instead of taking transit, biking, or walking. Parking expert Donald Shoup recommends setting variable parking prices to target a 15 percent vacancy rate for curb parking. In addition to encouraging people to curtail driving, it also creates turnover that benefits retailers by making convenient parking available for short shopping trips.

Reverse-in angled parking: Boise, ID (Credit: Dan Burden)

Where angle parking is proposed for on-street parking, designers should consider the use of reverse-in angle (or front out) parking in lieu of front-in angled parking. Motorists pulling out of reverse-in angled parking can better see the active street they are entering. This is especially important to bicyclists. Moreover, people exiting cars do so on the curb side and aren't likely to step into an active travel lane.

Another tool for on-street parking is the park assist lane. Often when on-street parking is provided on busy roads, drivers find it difficult to enter and leave their parked vehicle. Where space is available, consideration should be given to adding a park assist lane between the parking lane and travel way to provide 3 feet of space so car doors can be opened and vehicles can enter or depart with a higher degree of safety and less delay. Bike lanes can serve this function as well. Parking assist lanes also narrow the feel of the travel lane and slow traffic.

Bicycle Facilities

Bicycle facilities within the traveled way may include bicycle lanes, bicycle boulevards, other types of shared roadways (with or without shared lane markings), and cycle tracks.

Transit Facilities

Transit accommodations within the traveled way may include dedicated transit lanes, bus bulbs, bus pullouts, and other features.

Travel Lanes

Travel lane widths should be provided based on the context and desired speed for the area that the street is located in. Table 4.3 shows lane widths and the associated speeds that are appropriate. In low speed urban environments, lane widths are typically measured to the curb face instead of the edge of the gutter pan.

Consequently, when curb sections with gutter pans are used, the vehicle, bike, and parking lane all include the width of the gutter pan.

In order for drivers to understand how fast they should drive, lane widths have to create some level of driver discomfort when driving too fast. The presence of on-street parking is important in achieving the speeds shown in Table 4.3. When designated bike lanes or multi-lane configurations are used, there is more room for large vehicles, such as buses, to operate in, but car drivers will feel more comfortable driving faster than is desired.

Alleys can be designed as one-way or two-way. Right-of-way width should be a minimum of 20 feet with no permanent structures located within the right-of-way that would interfere with vehicle access to garages or parking spaces, access for trash collection, and other operational needs. Pavement width should be a minimum of 12 feet. Coordination with local municipalities on operational requirements is essential to ensure that trash collection and fire protection services can be completed.

Turn Lanes

The need for turn lanes for vehicle mobility should be balanced with the need to manage vehicle speeds and the potential impact on the border width such as sidewalk width. Turn lanes tend to allow higher speeds to occur through intersections, since turning vehicles can move over to the turn lane, allowing the through vehicles to maintain their speed.

Left-turn lanes are considered to be acceptable in an urban environment since there are negative impacts to roadway capacity when left turns block the through movement of vehicles. Sometimes just a left-turn pocket is sufficient, just long enough for one or two cars to wait out of traffic. The installation of a left-turn lane can be beneficial when used to perform a road diet such as reducing a four lane section to three lanes with the center lane providing for turning movements.

In urban places, normally no more than one left-turn lane should be provided. While right turns from through lanes may delay through movements, they also create a reduction in speed due to the slowing of turning vehicles. The installation of right-turn lanes increases the crossing distance for pedestrians and the speed of vehicles; therefore, exclusive right turn lanes should rarely be used except at “T” intersections. When used, they should be mitigated with raised channelization islands. See Chapter 5, “Intersection Design,” for more details.

Medians

Medians used on urban streets provide access management by limiting left turn movements into and out of abutting development to select locations where a separate left turn lane or pocket can be provided. The reduced number of conflicts and conflict points decreases vehicle crashes, provides pedestrians with a refuge as they cross the road, and provides space for landscaping, lighting, and utilities. These medians are usually raised and curbed. Landscaped medians enhance the street or help to create a gateway entrance into a community.

Well-designed street medians bring multiple benefits (Credit: Dan Burden)

Medians can be used to create tree canopies over travel lanes, contributing to a sense of enclosure. As shown in Table 4.4, medians vary in width. Recommended widths depend on available right-of-way and

function. Because medians require a wider right-of-way, the designer must weigh the benefits of a median with the issues of pedestrian crossing: distance, speed, context, and available roadside width.

2.2.3 Intersection Design

Most conflicts between roadway users occur at intersections, where travelers cross each other's path. Good intersection design indicates to those approaching the intersection what they must do and who has to yield. Exceptions to this include places where speeds are low (typically less than 18 mph) or where a shared space design ("naked streets") causes users to approach intersections with caution. Conflicts for pedestrians and bicyclists are exacerbated due to their greater vulnerability, lesser size, and reduced visibility to other users.

Lively intersection (Credit: Dan Burden)

This chapter describes design considerations in intersection geometry and intersection signalization, as well as roundabouts and other features to improve safety, accessibility, and mobility for all users. The benefits and constraints of each feature are examined and the appropriate use and design of each feature are described.

ESSENTIAL PRINCIPLES OF INTERSECTION DESIGN

The following principles apply to all users of intersections:

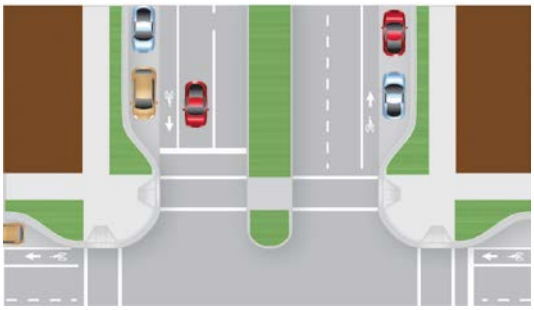
- Good intersection designs are compact.
- Unusual conflicts should be avoided.
- Simple right-angle intersections are best for all users since many intersection problems are worsened at skewed and multi-legged intersections.
- Free-flowing movements should be avoided.
- Access management practices should be used to remove additional vehicular conflict points near the intersection.
- Signal timing should consider the safety and convenience of all users and should not hinder bicycle or foot traffic with overly long waits or insufficient crossing times.

INTERSECTION GEOMETRY

Intersection geometry is a critical element of intersection design, regardless of the type of traffic control used. Geometry sets the basis for how all users traverse intersections and interact with each other.

Corner Radii
This intersection geometry feature has a significant impact on the comfort and safety of non-motorized users. Small corner radii provide several benefits.

Curb Extensions
Where on-street parking is allowed, curb extensions should be considered to replace the parking lane at crosswalks. Integrating curb extensions and on-street



Curb extensions (Credit: Michele Weisbart)

parking into the sidewalk corridor enhances pedestrian safety and the walking experience.

Crosswalk and Ramp Placement
Crosswalks and ramps at intersections should be placed so they provide convenience and safety for pedestrians.

On-Street Parking Near Intersections
On-street parking should be positioned far enough away from intersections to allow for good visibility of pedestrians preparing to cross the street. Curb extensions allow parking to be placed closer to the intersection.

Right-Turn Channelization Islands
Right-turn lanes should generally be avoided as they increase the size of the intersection, the pedestrian crossing distance, and the likelihood of right-turns-on-red by inattentive motorists who do not notice pedestrians on their right. However, where there are heavy volumes of right turns (approximately 200 vehicles per hour or more), a right-turn lane may be the best solution to provide additional vehicle capacity without adding additional lanes elsewhere in the intersection.

2.2.4 Pedestrian Design

Nowhere is the concept of **universal** access more important than in the design of the pedestrian environment. While perhaps not intuitively obvious at first glance, this is the realm of streets with the greatest variation in user capabilities, and thus the realm where attention to design detail is essential to effectively balance user needs. This is also the realm where signs and street furniture are located, and where transitions are made between modes (e.g., driver or passenger to pedestrian via parking, bus stop/train station, or bike rack). The pedestrian environment includes sidewalks, curb ramps, crosswalks, bus stops, signs, and street furniture.

Sidewalks constructed without adequate design guidelines (Credit: Chanda Singh)

Without design guidelines, sidewalks are often too narrow, utility poles obstruct travel, steep driveway ramps are impassable to wheelchair users, and bus stops become blocked by the disorderly placement of shelters, poles, trash receptacles, and bike racks.

With well-defined guidelines, sidewalks are built to accommodate pedestrians of all ages and physical abilities, and become inviting pedestrian environments as the adjacent picture shows.

Designing the pedestrian realm for universal access enables persons with disabilities to live independently and lead full, enriched lives; they are able to go to work and to school, to shop, and otherwise engage in normal activities. Moreover, walking environments that accommodate people with disabilities improve walking conditions for everyone. People with strollers and rolling suitcases can make their way about with ease. Children can mature by learning to navigate through their neighborhoods with independence. Inaccessible pedestrian networks, on the other hand, can lead to people becoming housebound and socially isolated, which in turn can lead to a decline in well-being and a host of associated negative health outcomes such as depression.

LAND USE AND SIDEWALK DESIGN GUIDELINES

The sidewalk design guidelines in this chapter integrate design and land use to provide safe and convenient passage for pedestrians. Sidewalks should have adequate walking areas and provide comfortable buffers between pedestrians and traffic. These guidelines will ensure sidewalks in all development and redevelopment provide access for people of all ages and physical abilities.

Walking requires two important features in the built environment: people must walk along streets and they must get across streets. Crossing a street should be easy, safe, convenient, and comfortable. While pedestrian behavior and intersection or crossing design affect the street crossing experience, motorist behavior (whether and how motorists stop for pedestrians) is the most significant factor in pedestrian safety.

Crossings are a necessary part of the pedestrian experience (Credit: Sky Yun)

A number of tools exist to improve pedestrian safety and to make crossing streets easier. Effective traffic management can address concerns about traffic speed and volume. A motorist driving more slowly has more time to see, react, and stop for a pedestrian. The number of pedestrians also influences motorists; in general, motorists are more aware of pedestrians when more people walk. Most tools to address crossing challenges are engineering treatments, but tools from the enforcement, education, and planning toolboxes are also important.

Providing marked crosswalks is only one of the many possible engineering measures. When considering how to provide safer crossings for pedestrians, the question should *not* be: "Should I provide a marked crosswalk?" Instead, the question should be: "What are the most effective measures that can be used to help pedestrians safely cross the street?" Deciding whether to mark or not mark crosswalks is only one consideration in creating safe and convenient pedestrian crossings.

ESSENTIAL PRINCIPLES OF PEDESTRIAN CROSSINGS

The following principles should be incorporated into every pedestrian crossing improvement:

- Pedestrians must be able to cross roads safely. Cities have an obligation to provide safe and convenient crossing opportunities.
- The safety of all street users, particularly more vulnerable groups, such as children, the elderly, and those with disabilities, and more vulnerable modes, such as walking and bicycling, must be considered when designing streets.
- Real and perceived safety must be considered when designing crosswalks—crossing must be “comfortable.” A “safe” crossing that no one uses serves no purpose.
- Crossing treatments that have the highest crash reduction factors (CRFs) should be used when designing crossings.
- Safety should not be compromised to accommodate traffic flow.

Curb extensions and median make crossing four-lane streets safer and more manageable.
(Credit: Dan Burden)

- Good crossings begin with appropriate speed. In general, urban arterials should be designed to a maximum of 30 mph or 35 mph (note: 30 mph is the optimal speed for moving motor vehicle traffic efficiently).
- Every crossing is different and should be selected and designed to fit its unique environment.

The following issues should also be considered when planning and designing crossings:

- Ideally, uncontrolled crossing distances should be no more than 21 feet, which allows for one 11-foot lane and one 10-foot lane. Ideally, streets wider than 40 feet should be divided (effectively creating two streets) by installing a median or two crossing islands.
- The number of lanes should be limited to a maximum of three lanes per direction on all roads (plus a median or center turn lane).
- There must be a safe, convenient crossing at every transit stop.
- Double (or triple) left or right turns concurrent (permissive) with pedestrian crossings at signalized intersections must never be allowed.
- Avoid concurrent movements of motor vehicles and people at signalized intersections.
- People should never have to wait more than 90 seconds to cross at signalized intersections.
- Pedestrian signals should be provided at all signalized crossings where pedestrians are allowed.

2.2.5 Bikeway Design

Bicyclists operate a vehicle and are legitimate road users, but they are slower and less visible than motor vehicles. Bicyclists are also more vulnerable in a crash than motorists. They need accommodation on busy, high-speed roads and at complex intersections. Cyclist skill level also provides a wide variety of speeds and expected behaviors. Bicycle infrastructure should use planning and designing options, from shared roadways to separate facilities, to accommodate as many user types as possible and to provide a comfortable experience for the greatest number of cyclists.

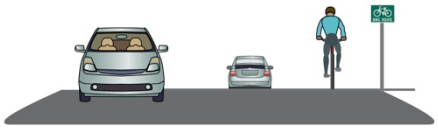
ESSENTIAL PRINCIPLES OF BIKEWAY DESIGN

The following principles inform the recommendations made in this chapter:

- Bicyclists should have safe, convenient, and comfortable access to all destinations.
- Every street is a bicycle street, regardless of bikeway designation.
- Street design should accommodate all types, levels, and ages of bicyclists.
- Bicyclists should be separated from pedestrians.
- Bikeway facilities should take into account vehicle speeds and volumes, with
  - Shared use on low volume, low-speed roads.
  - Separation on higher volume, higher-speeds roads.
- Bikeway treatments should provide clear guidance to enhance safety for all users.
- Since most bicycle trips are short, a complete network of designated bikeways has a grid of roughly ½ mile.

BIKEWAY TYPES

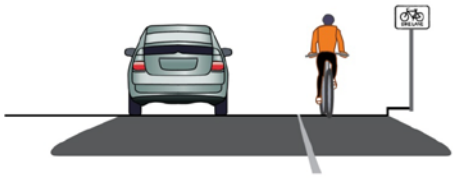
Shared Roadways - A shared roadway is a street in which bicyclists ride in the same travel lanes as other traffic. There are no specific dimensions for shared roadways. On narrow travel lanes, motorists have to cross over into the adjacent travel lane to pass a cyclist. Shared roadways work well and are common on low-volume, low-speed neighborhood residential streets, rural roads, and even many low-volume highways In California shared roadways are known as Class III bikeways.



Shared-use path
(Credit: Marty Bruinsma)

Bicycle Boulevards - A bicycle boulevard is a street that has been modified to prioritize through bicycle traffic but discourage through motor vehicle traffic. Traffic calming devices control traffic speeds and discourage through trips by automobiles. Traffic controls limit conflicts between automobiles and bicyclists and give priority to through bicycle movement at intersections.

Shoulder Bikeways - This facility accommodates bicycle travel on rural highways and country roads by providing a suitable area for bicycling and reducing conflicts with faster moving motor vehicles.



Bike Lanes - Portions of the traveled way designated with striping, stencils, and signs for preferential use by bicyclists, bike lanes are appropriate on avenues and boulevards. They may be used on other streets where bicycle travel and demand is substantial. Where on-street parking is provided, bike lanes are striped on the left side of the parking lane. In California bike lanes are designated as Class II bikeways.

Cycle Tracks - Cycle tracks are specially designed bikeways separated from the parallel motor vehicle travelway by a line of parked cars, landscaping, or a physical buffer that motor vehicles cannot cross. Cycle tracks are effective in attracting users who are concerned about conflicts with motorized traffic.

Shared Use Paths - Shared use paths are facilities separated from motor vehicle traffic by an open space or barrier, either within the highway right-of-way or within an independent right-of-way. Bicyclists, pedestrians, joggers, and skaters often use these paths. Shared-use paths are appropriate in areas not well served by the street system, such as in long, relatively uninterrupted corridors like waterways, utility corridors, and rail lines. They are often elements of a community trail plan. Shared use paths may also be integrated into the street network with new subdivisions as described in Chapter 3, "Street Networks and Classifications." In California shared-use paths are designated as Class I bikeways.

Shared-use path
(Credit: Marty Bruinsma)

2.2.6 Transit Accommodations

Public transit serves a vital transportation function for many people; it is their access to jobs, school, shopping, recreation, visitation, worship, and other daily functions. Except for subways and rail lines on exclusive rights-of-way, most transit uses streets. For transit to provide optimal service, streets must accommodate transit vehicles as well as access to stops. Transit connects passengers to destinations and is an integral component of shaping future growth into a more sustainable form. Transit design should also support placemaking.

ESSENTIAL PRINCIPLES OF DESIGNING STREETS FOR TRANSIT

Public transit should be planned and designed as part of the street system. It should interface seamlessly with other modes, recognizing that successful transit depends on customers getting to the service via walking, bicycling, car, taxi, or paratransit. Transit should be planned following these principles:

Bus stops are centers of activity (Credit: Ryan Snyder)

- Transit has a high priority on city streets.
- The busiest transit lines should have designated bus lanes.
- Where ridership justifies, some streets, called transit malls, may permit only buses or trains in the travelled way. These often also allow bicycles.
- Technology should be applied to increase average speeds of transit vehicles where appropriate.
- The essential streetscape elements for transit include signs, shelters, and benches. Shelters should be located in a sidewalk's furniture zone so they don't conflict with the pedestrian zone.
- Transit stops should be easily accessible, with safe and convenient crossing opportunities.
- Transit stops should be active and attractive public spaces that attract people on a regular basis, at various times of day, and all days of the week.
- Transit stops should also provide other amenities to make waiting for the next bus comfortable.
- Transit stops function as community destinations. The largest stops and stations should be designed to facilitate programming for a range of community activities and events.
- Transit stops should provide space for a variety of

Bus stop shelter (Credit: Sky Yim)

amenities in commercial areas, to serve residents, shoppers, and commuters alike.

- Transit stops should be attractive and visible from a distance.
- Transit stop placement and design influences accessibility to transit and network operations, and influences travel behavior/mode choice.
- Zoning codes, local land use ordinances, and design guidelines around transit stations should encourage walking and a mix of land uses (see Chapter 13, "Designing Land Use along Living Streets").
- Streets that connect neighborhoods to transit facilities should be especially attractive, comfortable, and safe and inviting for pedestrians and bicyclists.

Bicycle facilities at transit stations encourage intermodal travel: Los Angeles, CA

2.2.7 Placemaking

Placemaking for Streets

Streets comprise a large portion of publicly owned land in cities and towns. Streets are a huge part of any community's public space network, and historically served as meeting places, playgrounds for children, marketplaces, and more. As populations spread out from city centers, most American cities have come to view streets primarily as conduits for moving vehicles from one place to another. While moving vehicles is one of their purposes, streets are spaces, even destinations in and of themselves. Conceiving of a street as a public space and establishing design guidelines that serve multiple social functions involves several fundamental steps. Behind them all is a redefinition of whom streets ought to serve. By approaching streets as public spaces, cities redirect their attention from creating merely traffic conduits to designing a place that offers greater value to pedestrians, bicyclists, and transit riders.

PLACEMAKING FOR STREETS

In order to be places, streets must

- Augment and complement surrounding destinations, including other public spaces such as parks and plazas
- Reflect a community's identity
- Invite physical activity through allowing and encouraging active transportation and recreation
- Support social connectivity
- Promote social and economic equity
- Be as pleasant and accessible for staying as for going
- Prioritize the slowest users over the fastest
- Balance mobility and public space functions

So that people can

- Walk and stroll in comfort
- Sit down in nice, comfortable places, sheltered from the elements
- Meet and talk—by chance and by design
- Look at attractive things along the way
- See places that are interesting
- Feel safe in a public environment
- Enjoy other people around them
- And get where they need to go

2.3 Listing of Community Plan Specific "Complete Streets" Policies for Later Consideration.

The *Merced Vision 2030 General Plan* and public comments gathered during the community outreach efforts of the BCCP are the cornerstones that define the vision of the BCCP. The overall vision for circulation is to provide multi-modal transportation system throughout the planning area for use by vehicles, pedestrians, bicycles, and public transit, consistent with the principles of the General Plan's Urban Design Chapter. These principles emphasize planning, design, and construction for all modes in a manner that results in high usage levels. As such, roadways are treated as the essential element in the urban fabric that *connects* rather than *separates* neighborhoods located on opposite sides of a road. Separation of neighborhoods typically occur when road planning, design, and construction focuses primarily on vehicular travel, to the detriment of other travel modes. Consistent with *Merced Vision 2030 General Plan* Transportation Policy T-2.1 (Implementing Action 2.1d), the BCCP emphasizes travel by all transportation modes.

To achieve this vision within the BCCP, plan goals, policies, and implementation actions need to be prepared and adopted for later use by the community. Section 2.3 provides a suggested set of tools to help with this process, and include:

- State Context of Mandatory Circulation Element Issues
- Suggested Goals
- Policy Development Considerations
- Suggested BCCP Complete-Street Policies
- Suggested BCCP Benchmarks and Performance Measures

2.3.1 Mandatory Circulation Element Issues

The circulation element shall contain objectives, policies, principles, plan proposals, and/or standards for planning the infrastructure to support the circulation of people, goods, energy, water, sewage, storm drainage, and communications. Mandatory circulation element issues as defined in statute include: major thoroughfares, transportation routes, terminals, any military airports and ports, and other local public utilities and facilities. Additionally, the statute requires the circulation element be modified to plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways. The statute defines "all users of streets, roads, and highways" as "bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors." Transportation networks should additionally consider pedestrian, bicycle, and transit routes, which may not always be located on or along streets, roads, and highways. Circulation elements shall also take into consideration the provision of safe and convenient travel that is suitable to the rural, suburban, or urban context of a local jurisdictions general plan. This could include policies and implementation measures for both retrofitting and developing streets to serve multiple modes and the development of multimodal transportation network design standards based on street types.

2.3.2 Suggested Goals

Guiding Principle

Development of the Bellevue Corridor Community Plan will occur in a manner that enhances the safety, access, convenience and comfort of all users of all ages and abilities, including pedestrians (including

people requiring mobility aids), bicyclists, transit users, motorists, and freight drivers, through the design, operation, and maintenance of the transportation network so as to create a connected network of facilities accommodating each mode of travel that is consistent with and supportive of the local community, recognizing that all streets are different and that the needs of various users will need to be balanced in a flexible manner.

Goals state the broad, overriding outcomes a city wants to achieve. The goals of designing complete streets are to: [2]

- Serve the land uses that are adjacent to the street; mobility is a means, not an end
- Encourage people to travel by walking, bicycling, and transit, and to drive less
- Provide transportation options for people of all ages, physical abilities, and income levels
- Enhance the safety and security of streets, from both a traffic and personal perspective
- Improve peoples' health
- Create livable neighborhoods
- Reduce greenhouse gas emissions and other air pollution
- Reduce energy consumption
- Promote the economic well-being of both businesses and residents
- Increase civic space and encourage human interaction

2.3.3 Policy Development Considerations

The following suggestions are examples of possible complete street policy areas that could be used to prepare the circulation element for the *Bellevue Corridor Community Plan*. [1]

Streets, Roads, and Highways

- The availability of a mix of transportation modes and the infrastructure to support those modes to meet community needs
- The consideration of street patterns; curvilinear, grid, modified grid, etc
- The design of streets (including, but not limited to, width, block size, etc.)
- The consideration of sidewalks and curbs as a standard street design principle
- The consideration of bicycle lanes and/or shared lanes as a standard street design principle
- The consideration of transit accessibility and transit priority measures as a standard street design principle
- The consideration of shade trees and planting strips as a standards street design principle
- The consideration of traffic calming measures (narrower travel lanes, roundabouts, raised medians, speed tables, planting strips, etc.)
- The safety of the traveling public, including pedestrians and bicyclists
- The accessibility and accommodation of bicycle and pedestrian traffic, where appropriate, on and across major thoroughfares
- The design of intersections and public right-of-ways to include adequate and safe access for all users including pedestrians, bicyclists, and motorists of all ages and abilities
- The development of a connected system of streets, roads, and highways that provides continuous, safe, and convenient travel for all users

- The consideration of separate performance and level-of-service standards for bicycle and pedestrian traffic or integrated performance and level-of-service standards that include multiple modes
- The development and improvement of transit, including transit services within a roadway right-of-way
- The consideration of bus HOV lanes or other exclusive right-of-way for transit vehicles

Truck Routes

- The development of proposed truck routes and policies supporting truck route regulations
- The accessibility and accommodation of pedestrian and bicycle traffic, where appropriate, on truck routes

Pedestrian and Bicycle Routes

- The development of a comprehensive pedestrian and/or bicycle plan. See California Streets and Highways Codes Sec. 891.2 requirements for bicycle transportation plans
- The development and improvement of pedestrian and bicycle routes, on and off, streets, roads, and highways. Consider special accommodations such as car-free zones, bicycle boulevards, and paths
- The connectivity of pedestrian and bicycle routes between homes, job centers, schools and facilities, and other frequently visited destinations
- The development of Safe Routes to School programs that address pedestrian and bicycle safety for a two mile radius around all elementary, middle, and high school facilities
- The development of pedestrian and bicycle facilities along routes that support the use of these routes such as benches, shelters, trees, bicycle parking, etc.
- The dedication and preservation of independent alignments (utility, abandoned waterways, or live rail right-of-ways) for the development of bicycle paths
- The development of performance and level-of-service standards for pedestrian and bicycle routes and intersection.
- The development and use of marketing and incentive programs to promote the increase of walking and bicycling

Transit Routes

- The development and improvement of public and private transit routes
- The development and improvement of access to and from transit routes by walking and bicycling and by people with disabilities
- The development of performance and level-of-service standards for transit routes and intersections that consider all transportation modes

Public and Private Transit Terminals

- The location and characteristics of transit terminals to maximize accessibility by all modes of transportation
- The development and improvement of both public and private transit terminals and stops
- The development of inter-modal transfer facilities, such as bicycle parking and bus transfer stations
- The provision of adequate and safe transit facilities including covered shelters, lighting, safe crossings, and locations that support eyes on the street
- The provision of safe and efficient multimodal access to and within transit terminals, complying with ADA standards

Transit and Railroads

- The development and improvement of transit and paratransit services, including mass rapid transit services, commuter light rail and heavy rail metro/subway systems, in consultation with the appropriate transportation agencies
- The accessibility and accommodation of all transit users
- The review and/or development of paratransit plan proposals for jitneys, car pooling, van pooling, taxi service, dial-a-ride, etc.
- The adoption of technology that creates a more effective usage of existing transit such as real time monitors and personalized automatic notification arrivals

Land Uses and Transportation Integration

- The development of transit-oriented development standards, including the appropriate mix of density and intensity of land uses near transit stations, parking requirements, and service and delivery requirements
- The creation of land use patterns, such as mixed-use overlay districts, that allow frequently visited destinations to be accessible by multiple transportation modes
- The availability of transportation infrastructure needed to accommodate increased density and transit-oriented development

Transportation Operations Management

- The development of transportation operations management policies, such as the consideration of reducing speeds, separating pedestrians and bicyclists from vehicle traffic, and adding or upgrading traffic control devices, etc.
- The provision of adequate crossing times and detection for all users at signalized intersections, consistent with AB 1581 (Fuller, Statutes of 2007)
- The appropriate balancing of needs of various users when establishing speed limits for motor vehicles, consistent with AB 2767 (Jackson, Statutes of 2000)

Parking Facilities

- The provision of bicycle parking
- The development of strategies for the control of parking demand such as improved transit services, amenities for bicyclists, subsidized rideshare vehicles, and the consideration of eliminating minimum parking requirements
- The development of strategies for the management of vehicle parking supply such as increased parking fees, graduated parking fees, shared parking, metered on-street parking, staggered work schedules, etc.

2.3.4 Suggested Set of Complete Street Policies

To ensure success of Complete Streets in the BCCP, it is important that the planning and project development process includes consideration of these policies.

All Users and All Modes

Cities will incorporate the full range of appropriate streets elements when planning and designing their transportation networks.

Cities will enhance the safety, access, convenience, and comfort of users of all ages and abilities. Cities understand that children, elderly adults, and persons with disabilities will require special accommodations.

Cities will plan, design, and build high quality access and mobility for pedestrians, bicyclists, and transit passengers.

Connectivity

Cities will design, operate, and maintain a transportation system that provides a highly connected network of streets that accommodate all modes of travel.

Cities will seek opportunities to repurpose rights-of-way, and to add new rights-of-way to enhance connectivity for pedestrians, bicyclists, and transit.

Cities will prioritize non-motorized connectivity improvements to services, schools, parks, civic uses, regional connections, and commercial uses.

Cities will require large, new developments to provide interconnected street networks with small blocks that connect to existing or planned streets on the perimeter of the development.

Jurisdiction

A city's complete streets policy document is intended to cover all roads, streets, and alleys in the city.

Every city agency, including public works, planning, redevelopment, street services, and others will follow the policies in this document.

Cities will require all developers to obtain and comply with their standards.

Phases

Cities will apply their complete streets policy document to all roadway projects including those involving operations, maintenance, new construction, reconstruction, retrofits, repaving, rehabilitation, or changes in the allocation of pavement space on an existing roadway. This also includes privately built roads intended for public use.

Transportation facilities are long-term investments that should be designed and constructed to anticipate all current and future demand and connectivity needs. Those planning and designing street projects will give due consideration to bicycle, pedestrian, and transit facilities from the very start of planning and design work. This will apply to all street construction, re-construction, re-paving, and re-habilitation projects, or changes in the allocation of pavement space on an existing roadway (such as the reduction in the number of travel lanes or removal of on-street parking).

Complete streets may be achieved through single projects or incrementally through a series of smaller improvements or maintenance activities over time.

Cities will draw on all sources of transportation funding to implement complete streets.

Exceptions

Complete streets will be included in all street construction, reconstruction, repaving, and rehabilitation projects, except under one or more of the following conditions:

A. A project involves only ordinary maintenance activities designed to keep assets in serviceable condition, such as mowing, cleaning, sweeping, spot repair, concrete joint repair, or pothole filling, or when interim measures are implemented on temporary detour or haul routes.
B. The City Council exempts a project due to an excessively disproportionate cost of establishing a bikeway, walkway, or transit enhancement as part of a project.
C. The City Engineer and the Planning Manager jointly determine that the construction is not practically feasible or cost effective because of significant or adverse environmental impacts to waterways, flood plains, remnants of native vegetation, wetlands, mountainsides, or other critical areas, or due to impacts on neighboring land uses, including from right of way acquisitions.
D. The City Engineer issues a documented exception that application of complete streets principles is unnecessary or inappropriate.
E. The Director of Development Services issues a documented exception where changes to the street may detract from the historical or cultural nature of the street or neighborhood.

Design

Cities will adopt new complete streets design guidelines to guide the planning, funding, design, construction, operation, and maintenance of new and modified streets while remaining flexible to the unique circumstances of different streets where sound engineering and planning judgment will produce context-sensitive designs.

Cities will incorporate the street design guidelines' principles into all city plans, manuals, rules, regulations, and programs as appropriate. As new and better practices evolve, cities will incorporate those as well.

Cities will keep street pavement widths to the minimum necessary.

Cities will provide well-designed pedestrian accommodation in the form of sidewalks or shared-use pathways on all arterial and collector streets and on local streets.

Cities will provide frequent, convenient, and safe street crossings. These may be at intersections designed to be pedestrian friendly, or at mid-block locations where needed and appropriate.

Cities will provide bicycle accommodation along all avenues, boulevards, and connector streets.

Where physical conditions warrant, cities will plant trees and manage streetwater whenever a street is newly constructed, reconstructed, or relocated.

Context Sensitivity

Cities will plan their streets in harmony with the adjacent land uses and neighborhoods.

Cities will design their streets with full input from local stakeholders.

Cities will design their streets in harmony with natural features such as waterways, slopes, and ravines.

Cities will design their streets to connect or provide continuity between existing trail or path networks, where appropriate.

Cities will design their streets with a strong sense of place. They will use architecture, landscaping, streetscaping, public art, signage, etc. to reflect the community, neighborhood, history, and natural setting.

Cities will coordinate with merchants along Main Street corridors to develop vibrant retail districts.

Performance Measures

Use performance measures below

Implementation Plan

Cities will adopt and apply a complete-street design manual.

Cities will incorporate complete streets concepts into the next circulation element of their general plans.

Cities will either implement complete streets designs on every street, or initiate the process by preparing and adopting bicycle plans, pedestrian plans, green streets plans, Safe Routes to School plans, and an Americans with Disabilities Act transition plan.

2.3.5 Suggested Benchmark and Performance Measures

Conventional street design applies auto-centric performance measures. The most common is the Level of Service (LOS), which seeks to maintain flow of vehicles and leads to widening streets and intersections, removing on-street parking, and other strategies to accommodate the flow of traffic. These techniques undermine the goals and tenets of complete streets.

To meet the goals and tenets of complete streets, communities should adopt the following benchmarks and performance measures. [2]

BENCHMARKS

- Every street and neighborhood is comfortable to walk and bicycle in.
- Every child can walk or bike to school safely.
- Seniors, children, and disabled people can cross all streets safely and comfortably.
- An active way of life is available to all.
- There are zero traffic fatalities.
- Retail streets become one of the most popular destinations for tourists in the country.

PERFORMANCE MEASURES

- Street fatalities and injuries decrease for all age groups.
- The number of trips by walking, cycling, and transit increases.
- Vehicle travel is reduced.
- Prevailing speeds of vehicles on local streets decrease.
- Retail sales and tourism increase.
- Resident satisfaction increases.

3. BIBLIOGRAPHY AND ACKNOWLEDGEMENTS

Bibliography:

1. Update to the General Plan Guidelines: Complete Streets and the Circulation Element. Governor's Office of Planning and Research. December 15, 2010

2. *Los Angeles County Model Design Manual for Living Streets*

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Useful Definitions [1]

Air Installation Compatible Use Zone (AICUZ): A land use compatibility plan prepared by the U.S. Department of Defense for military airfields. AICUZ plans serve as recommendations to local government bodies having jurisdiction over land uses surrounding these facilities.

Airport: An area of land or water that is used or intended to be used for the landing and taking off of aircraft, and includes its building and facilities, if any.

Airport Land Use Compatibility Plan: A plan adopted by an Airport Land Use Commission, which sets forth policies for promoting compatibility between airports and the land uses which surround them.

All Users: Users of streets roads and highways including bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation and seniors.

Arterial: A major street carrying the traffic of local and collector streets to and from freeways and other major streets, with controlled intersections and generally providing direct access to properties.

Bicycle Boulevard: The Bicycle Boulevard Design Guidebook defines a Bicycle Boulevard as "low-volume and low-speed streets that have been optimized for bicycle travel through treatments such as traffic calming and traffic reductions, signage and pavement markings, and intersection crossing treatments.

Bicycle Lane: According to Caltrans' Highway Design Manual, Chapter 1000, a bicycle lane is a Class II Bikeway and provides a striped lane for one-way bicycle travel on a street or highway,

Bicycle Path: According to Caltrans' Highway Design Manual, Chapter 1000, a bicycle path is a Class I Bikeway and provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross flow by motorists minimized.

Bus Rapid Transit (BRT): The Federal Transit Administration defines BRT as a "combination of facility, systems, and vehicle investments that convert conventional bus services into a fixed-facility transit service, greatly increasing their efficiency and effectiveness to the end user."

Collector: A street for traffic moving between arterial and local streets, generally providing direct access to properties.

Complete Street: The National Complete Streets Coalition defines complete streets as follows:

> Complete streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists, and transit riders of all ages and abilities must be able to safely move along and across a complete street.

> Creating complete streets means transportation agencies must change their orientation toward building primarily for cars. Instituting a complete streets policy ensures that transportation agencies routinely design and operate the entire right of way to enable safe access for all users.

The American Planning Association (APA) describes complete streets as follows:

> Complete streets serve everyone – pedestrians, bicyclists, transit riders, and drivers – and they take into account the needs of people with disabilities, older people, and children. The complete streets movement seeks to change the way transportation agencies and communities approach every street project and ensure safety, convenience, and accessibility for all.

The California Department of Transportation (Caltrans) defines complete streets as follows:

> A transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit vehicles, truckers, and motorists, appropriate to the function and context of the facility. Complete street concepts apply to rural, suburban, and urban areas.

Connectivity: A well connected circulation system with minimal physical barriers that provides continuous, safe, and convenient travel for all users of streets, roads, and highways.

Conventional Highway: According to the California Highway Manual, a conventional highway is, "a highway without control of access which may or may not be divided. Grade separations at intersections or access control may be used when justified at spot locations."

Expressway: A highway with full or partial control of access with some intersections at grade.

Farm-to-Market: Transportation facilities which provide connections between areas of agricultural production, processing, and storage facilities to agricultural distribution and sales activities.

Freeway: A highway serving high-speed traffic with no crossings interrupting the flow of traffic (i.e., no crossings at grade). Streets and Highways Code §23.5, in part, states that "Freeway means a highway in respect to which the owners of abutting lands have no right or easement of access to or from their abutting lands or in respect to which such owners have only limited or restricted right or easement of access."

Heliport: A facility used for operating, basing, housing, and maintaining helicopters.

Local Scenic Highway: A segment of a state or local highway or street that a city or county has designated as "scenic."

Local Street: A street providing direct access to properties and designed to discourage through traffic.

Level-of-Service: According to the Transportation Research Board's 2000 Highway Capacity Manual Special Report, Level-of-Service is a qualitative measure describing the efficiency of a traffic stream. It also describes the way such conditions are perceived by persons traveling in a traffic stream. Level-of-Service measurements describe variables such as speed and travel time, freedom to maneuver, traffic interruptions, traveler comfort and convenience, and safety. Measurements are graduated, ranging from level-of-Service A (representing free flow and excellent comfort for the motorist, passenger, or pedestrian) to Level-of-Service F (reflecting highly congested traffic conditions where traffic volumes exceed the capacities of streets, sidewalks, etc.). Level-of-Service can be determined for freeways, multi-lane highways, two-lane highways, signalized intersections, intersections that are not signalized arterials, and transit, bicycle, and pedestrian facilities.

Light Rail or Light Rail Transit (LRT): A form of urban rail public transportation which typically travels at a lower speed and capacity than heavy and metro rail systems, but typically travels at higher speeds and capacity than traditional tram systems. LRT operates mostly in private right-of-ways, but can also at times be incorporated into public right-of-ways.

Major Thoroughfare: A major passageway such as a street, highway, railroad line, or navigable waterway that serves high traffic volumes.

Multimodal Transportation Network: A well balanced circulation system that includes multiple modes of transportation that meets the needs of all users of streets, roads, and highways. §65302(b)(2)(A).

National Scenic Byway: A segment of a state or interstate highway route that the United States Forest Service has designated as a scenic byway or which another federal agency has designated as a national scenic and recreational highway.

Official County Scenic Highway: A segment of a county highway the Director of Caltrans has designated as "scenic."

Official State Scenic Highway: A segment of a state highway identified in the Master Plan of State Highways Eligible for Official Scenic Highway Designations and designated by the Director of Caltrans.

Paratransit: Transportation systems such as jitneys, car pooling, van pooling, taxi service, and dial-a-ride arrangements.

Railroad Depot: A railroad terminal where passengers and goods are loaded and unloaded.

Recreational Trails: Public areas that include pedestrian trails, bikeways, equestrian trails, boating routes, trails, and areas suitable for use by persons with disabilities, trails and areas for off-highway recreational vehicles, and cross-country skiing trails.

Route: A sequence of roadways, paths, and/or trails that allow people to travel from place to place.

Scenic Highway Corridor: The visible area outside the highway's right-of-way, generally described as "the view from the road."

Terminal: A station, stop, or other transportation infrastructure along or at the conclusion of a transportation route. Terminals typically serve transportation operators and passengers by air, rail, road, or sea (i.e., airports, railroad depots, transit stops and stations, and ports and harbors).

Transit-Oriented Development (TOD): A moderate- to high-density development located within an easy walk or bicycle of a major transit stop, generally with a mix of residential, employment, and shopping opportunities. TOD encourages walking, bicycling, and transit use without excluding the automobile.

Utilities: A set of services provided by local public utilities such as electricity, natural gas, water, and sewage.

Walkability: The measurement of how walkable a community is. Walkable communities typically include footpaths, sidewalks, street crossing, or other pedestrian oriented infrastructure.

REPORT 4:

Zoning, Development and Land Use Standards to Implement the Bellevue Corridor Community Plan

January 22, 2013

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1. PURPOSE OF MEMORANDUM

This memorandum addresses how the relevant direction in Chapter 3 of the City of Merced (City) 2030 General Plan (Land Use) will be implemented in the BCCP. The BCCP will need to result in a comprehensive approach that achieves the goals for the Bellevue area as well as those of the City as a whole.

The land within the BCCP area is located within the City's Sphere of Influence, not yet within the incorporated City boundaries. As a result, there is no City zoning on the properties. The BCCP will serve as a tool for describing the vision and establishing zoning, development and land use standards for the 2.5-square mile area. Zoning will be the primary tool for implementing the vision described in the BCCP.

In order to generate and apply the appropriate zoning, development and land use standards to the BCCP area, the following are necessary:

- Recommendations for how to implement the Urban Village concept balanced with the key features of the planning area;
- A vision supported by the community that can be articulated in enough detail in the BCCP to be implemented through zoning;
- Evaluation of the vision to determine which of the City's current zoning districts and standards are appropriate to implement the vision and direction in the BCCP; and
- Identification of zoning standards necessary to implement the vision and direction in the BCCP.

The analysis in this Memorandum addresses the first item above. The analysis is in narrative format to expose and discuss issues that need to be clarified in order to move forward confidently. Based on community input through the public process, the consultant team will then work with the community to prepare the second item, the vision for the BCCP area. The vision will then be turned into a complete plan that will be accompanied by zoning, development and land use standards for implementation.

2. IMPLEMENTATION AND RECOMMENDATIONS

2.1 Implementing the Urban Village Concept with the Key Features of the Bellevue Corridor Planning Area

The BCCP process should ensure that the General Plan is implemented at the appropriate level (e.g., policy or regulation). This memo directs implementation of the General Plan Urban Village concept (Section 3.6.2) and the Bellevue Corridor planning area (Section 3.7.4). Key features and direction from these sections of the General Plan are summarized below.

Key Features and Issues to be Addressed in the BCCP:

- Economics/Market: Long-term sustainability and demand to determine size and location of research and development (R & D), medical/professional offices, retail/commercial, and housing;
- Land Use: Implementation of the Urban Village concept; compatible and complementary land uses, influence and effects from the UC on nearby land; interface with existing rural areas; a variety of housing types and densities in addition to job-generating land uses;
- Transportation/Circulation: Establish Bellevue Road as a multi-modal access corridor that unifies rather than separates the opposite sides of the road; Establish a system of collector streets and arterials to encourage internal circulation within the BCCP area;
- Public Facilities: Location and financing of public facilities; off-street bike and pedestrian paths; parks and open space;
- Environment: Lake Yosemite Inundation Area; Sensitive species and habitat conservation;
- Character/Design: Establish design guidelines for development along Bellevue Road; Consider the natural hill on the south side of Bellevue between G and Gardner as a focal point.

The following analysis will refer back to these key features, with recommendations on approaches or adjustments as necessary to best support these key features. For example, 1) how to incorporate employment land uses such as R & D parks; 2) compatibility issues of buildings and land uses with adjacent regional transit and roads; and 3) accommodation for transit priority projects.

2.2 Implementing Merced's Urban Village Concept through the BCCP

The Urban Village concept (about 1 square mile, or 64 acres) establishes options for new growth at a scale larger than that of individual projects: new pieces of Merced. The Urban Village concept is essentially a pattern of approximately four neighborhoods (about 160 acres each) with high connectivity and internal variety that are served by some type of commercial area as well as areas for industrial uses or business parks. Each neighborhood has its own shape, role and intensity based on its location and the BCCP vision, as established in the General Plan. Each group of four neighborhoods is expected to have an "Inner Village" which contains the most intense housing in the neighborhood along with any civic, commercial or retail businesses, as well an "Outer Village" that contains the least intense housing in the neighborhood and any parkland and schools.

The traditional city, one that matures while easily adapting to changing conditions, is based on an observable structure of Centers, Neighborhoods, Districts and Corridors. Merced is such a city, especially its downtown and adjacent neighborhoods. Each quadrant in the BCCP will be a mix of at least two of the traditional city environments mentioned above. The range of mixing depends upon the vision and policy direction of the BCCP.

In the analysis presented in this memo, we implement the Urban Village concept using our experience with the traditional city approach of Centers, Neighborhoods, Districts and Corridors. To summarize how our recommended approach implements the Urban Village concept, Tables 1 and 2 compare the General Plan's direction for the structure of new growth areas with our recommendations for the new structural pieces of Merced's growth. Each of the traditional city environments (Centers, Neighborhoods, Districts, and Corridors) is described following Tables 1 and 2.

Table 1: Urban Village Concept	
Innver Village	**Outer Village**
Approximate amount in 1 Square Mile = 1/3	**Approximate amount in 1 Square Mile = 2/3**
Core Commercial Area	**3.1.Low Density Residential Area**
Either of 3 types of Core Commercial Areas: **Community = 20 to 60 acres** **Neighborhood = 10 to 20 acres** **Convenience = 3 to 10 acres**	**3.2. Min Dwellings per Acre = 2** **Max Dwellings per Acre = 6**
Village Core Residential	**3.3.Open Space and Schools**
Min Dwellings per Acre = 7 **Min Average Dwellings per Acre = 10** **Max Dwellings per Acre = 30**	
Range of Land Uses: The Inner Village may contain a wide variety of commercial, retail and business-park type uses as well as the most intense housing within the area.	**Range of Land Uses:** The Outer Village may contain a wide variety of lower density housing choices.
The Urban Village Concept and its direction identified above has been translated on the next page into a system of physical components that can be establisihed, adjusted and applied to each of the square mile sections or 'quadrants' in the BCCP. Moving forward, the system of Centers, Neighborhoods, Districts and Corridors will implement the Urban Village Concept.	

Table 2: Implementation			
Centers	**Neighborhoods**	**Districts**	**Corridors**
Approximate amount in Quadrant = Distributed along Corridors at least 1/2 mile apart	**3.4. Approximate amount in Quadrant =** at least 50% or more depending upon location	**Approximate amount in Quadrant =** Distributed along Corridors between Centers, buffering Neighborhoods from large roads	**3.5. Approximate amount in Quadrant =** Square mile defined by Corridors ; may be applied to 1/2 mile areas
Description and Types	**Description and Types**	**Description and Types**	**Description and Types**
Centers are located to serve adjacent neighborhoods and districts and are typically located along a Corridor. One of three types of Centers is applied to a location along a Corridor or along the edges of a District or Neighborhood. Streets and streetscapes are the most urban of all in the BCCP. Three types of centers provide for the expected range of land use activity:	Neighborhoods are located between Corridors and accommodate a wide range of housing choices with the most intense housing nearer Corridors, Centers, and Districts. Depending upon location, Neighborhoods are composed of at least two and up to three Neighborhood Residential environments. Streets and streetscapes respond to and support the three general environments. Three types of Neighborhood-Residential provide for the expected range of land use activity:	Districts are areas that because of their size or function are neither neighborhoods or centers such as business and research parks. Districts are typically located along or near Corridors and may contain non-residential activity as well as Urban Residential. Streets range from urban for office areas to industrial for manufacturing areas. Two types of Districts provide for the expected range of land use activity:	Corridors are areas typically 1 block deep along the square-mile and half-mile grid. Corridors buffer neighborhoods from larger roads and are punctuated by Centers with Districts occurring as well and may contain a wide variety of non-residential and residential land use activity. Streets and streetscapes respond to and support the three general environments. Three types of Corridors provide for the expected range of land use activity:
Regional: Contains retail and service businesses that attract customers from the region.	**Urban Residential:** Consists of the most intense housing in the neighborhood and typically up to 25% of the total housing area depending upon location.	**3.6. Workplace:** Consists primarily of large office or light industrial buildings with jobs that attract employees from Merced and the region.	**Urban:** Segments that primarily consist of Urban Residential housing and District development. The street section along these segments is the most robust to accommodate mixed-use activity.
Community: Contains retail and service businesses and services aimed at the greater Bellevue area	**Neighborhood Residential:** Consists primarily of single-family housing and typically up to 75% of the total housing area depending upon location.	**Recreation:** Consists of unique recreationally-oriented activities and buildings.	**Neighborhood:** Segments that primarily consist of Neighborhood Residential housing. The street section along these segments is neighborhood-oriented.
Neighborhood: Contains retail and service businesses and services aimed at the nearby neighborhoods	**Rural Residential:** Consists primarily of single-family housing and typically up to 25% of the total housing area depending upon location.		**Rural:** Segments that primarily consist of Rural Residential housing. The street section along these segments is the least intense of all with natural landscaping and detailing.

Combining and Applying the Above Components: The actual combinations and amounts of each of the four components depends upon the vision and policy direction for each square mile or 'quadrant' in the BCCP.

Component A: Centers

Terminology: The term "Center" refers to concentrations of non-residential and residential activity such as retail, office and service commercial with housing that is more intense than the housing in neighborhoods or along corridors.

Purpose: The main purpose of Centers is to provide the focal points of business, housing and civic activity that serve a variety of needs. Centers are sometimes located in geographically central locations but typically are located between neighborhoods along key streets or at the edges of Districts and along Corridors.

Application to the BCCP: We recommend three types of centers as shown in Table 2. The appropriate type of center depends upon many factors such as location, role and intensity within the BCCP area.

As individual neighborhoods, districts and corridors will vary from one another across the 2.5 square-mile area, centers in the area will also vary in size, intensity, layout, physical character, range of land uses.

Based on our interpretation of the direction from the General Plan, the size of Centers appears to be at the larger end of the spectrum. Because Centers will vary in response to their context and economic role, we have provided an expanded discussion about the size of Centers below to clarify expectations.

The General Plan identifies a quarter-mile walking distance for how Centers are to be sized and integrated with adjacent areas. This distance translates into about three walkable blocks in any direction. For the purposes of the BCCP we recommend that the term 'walkable block' refer to blocks that are not large and that do not favor vehicles to the exclusion of pedestrians. In our experience, a walkable block is typically up to 600 feet long in any direction and has pedestrian-oriented streetscapes with vehicular speeds that are typically less than 35 miles per hour. If speeds need to be higher such as along a boulevard, the street is then designed to be in balance with the pedestrian activity expected along its edges. As discussed in other parts of this memorandum, while there are exceptions, these factors tend to make a street conducive to people walking or wanting to be on the street: all important factors for the viability of Centers. When these factors increase numerically, the tendency is for the resulting environment to be one where people do not feel as comfortable walking or cycling. Over time, such streets present a less than appealing address for the buildings and activities along these streets.

Local Example of a Walkable Center: As a local example of a walkable Center, Downtown Merced and the adjacent neighborhoods illustrate the above points very well. A summary of Downtown Merced and the adjacent neighborhoods is provided below:

Downtown Merced:

Role: The Main Street for Merced.

Size: Approximately 100 acres; This regional center consists of eight blocks from R to G Street on each side of Main Street extending north for two blocks into the adjacent neighborhoods and south for one block toward Highway 99. The blocks range in size from 400 to 425 x 325 feet.

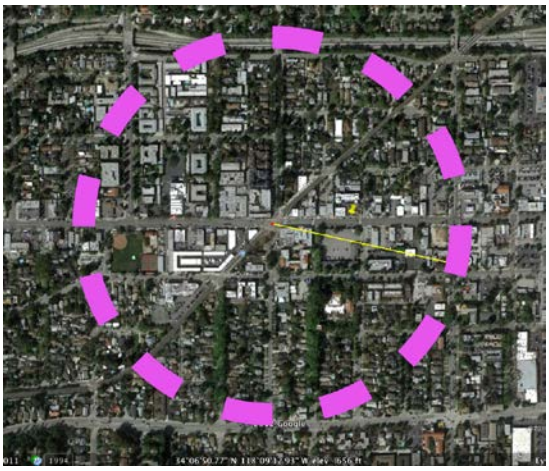
Physical Character: Most buildings are single- and two-stories with some taller buildings in the core. The ambience feels that of a small city as distinct from a town.

Example of a Range of Centers. In order to provide additional perspective on the size of Centers, the following examples are provided. The examples are listed from most intense and urban to least intense and rural for

successful Centers in a variety of physical and economic contexts ranging from small cities to small towns: South Pasadena, Healdsburg, Rancho Santa Fe, and Los Olivos.

Each of the following examples could serve entirely or partially as models for adaptation to the BCCP. The actual models to be adapted depend upon a range of factors, namely location and role in the overall mix and structure of the BCCP area.

Table3: Centers Comparison



Most Urban

South Pasadena, CA

Non-Residential Portion of Center: 20 acres

Physical Character: A small city at the upper end of the intensity spectrum.

Characteristics: A Local 'main street' at Mission and Meridian Streets. This 'center' consists of 4 blocks on both sides of Mission Street and is essentially 1 block deep as it connects with adjacent neighborhoods of single- and multi-family houses.

The blocks range in size with some at 220 x 280 feet, some at 275 x 280 feet and some at 280 x 345 feet.

Most buildings are single-story with some two-story buildings.

Healdsburg, CA

Non-Residential Portion of Center: 23 acres

Physical Character: A small town.

Characteristics: A community-oriented Main street and town square. This 'center' consists of 3 blocks on each side, surrounding a central town square and then connecting with adjacent neighborhoods of single- and multi-family houses. There is some corridor 'main street' development north and south of these 9 blocks. These blocks are perceived as the 'center'.

The blocks range in size but are generally between 235 to 260 feet x 260 to 275 feet.

Most buildings are two-stories with a few 3-story buildings.

Note: The area within the purple circle is the land within a 1/4 mile of each example's physical center.

Table 3: Centers Comparison

Most Rural

Rancho Santa Fe, CA

Non-Residential Portion of Center: 39 acres

Physical Character: A very small town with some rural character.

Characteristics: A local Main street. This 'center' consists of 3 blocks on each side, with one block at the south end that contains a hotel resort. These 7 blocks then connect with adjacent neighborhoods of estate-type houses in all directions.

The blocks range in size with some at 160 x 235 feet and some at 235 x 550 feet.

Most buildings are single-story with a few two-story buildings.

Los Olivos, CA

Non-Residential Portion of Center: 16 acres

Physical Character: A very small town with entirely rural character.

Characteristics: A local Main street at Grand and Alamo Pintado Avenues. This 'center' consists of 3 blocks on both sides of Grand Avenue and is one block deep as it connects with single- and small multi-family buildings in the adjacent neighborhoods.

The blocks range in size with half at 300 x 315 feet and the other half at 300 x 460 feet.

Most buildings are single-story with some two-story buildings.

Note: The area within the purple circle is the land within a 1/4 mile of each example's physical center.

The above examples show that whether or not the individual tenants are aimed at the region, the entire community, or at the neighborhood level, less rather than more acreage is needed to generate a viable Center. This is important when considering that *Implementing Action 1.2.b (page 6-12)* identifies that commercial areas should typically be of the following size depending upon the type.

Type of Center	Required Size of Center (Acres)	Required Size of Urban Residential	Total Required Size of Center (acres)
Regional: We recommend adding the Regional Center type. Typically includes anchor stores that have the widest trade area of stores in Merced. Only 1 is realistic in the BCCP.	We recommend Min 20	We recommend Min 20	We recommend Min 40
Community: Typically includes a supermarket, pharmacy, ancillary retail, professional office, junior anchor stores, health club	GP Reqmt: 20-60 We recommend Min 20	GP Reqmt: 40-80 We recommend Min 10	GP Reqmt: 100 Min 30
Neighborhood: Typically includes a supermarket, additional anchor, major ancillary retail, provisional office	GP Reqmt: 10-20 We recommend Min 5	GP Reqmt: 50-60 We recommend Min 10	GP Reqmt: 70 Min 15
Convenience: Typically includes a convenience mini-market with some ancillary retail. We recommend incorporating this type into the Neighborhood Center type.	GP Reqmt: 3-10 We recommend incorporating this type into Neighborhood Center type	GP Reqmt: 40-47 We recommend incorporating this type into Neighborhood Center type	GP Reqmt: 50 We recommend incorporating this type into Neighborhood Center type

Based on the above information in implementing action 1.2.b, discussion is needed to understand the role and effect of the identified parameters. With the variety of changes occurring in the retail industry, the above assumptions about acreage and associated business activity are at the large end of the scale. Increasingly, retail stores are shrinking in size and are beginning to include small versions of other stores within their footprint. With this in mind, and recognizing the intent and work that went into the above information, we recommend providing alternative ways of implementing the above policy direction for acreage. For example, adding a Regional Center type and allowing the Community Center to be developed and function within the acreage for a Neighborhood Center is one way to provide flexibility that responds to the rapidly changing retail industry. In addition we recommend eliminating the Convenience Center type and incorporating it into the Neighborhood Center because it most often occurs within a Neighborhood Center. Accordingly, we recommend lowering the acreage requirements as shown above in the table along with parameters to be developed for the range of Centers identified earlier in 'Implementation' that will

be based on the BCCP vision. Last, we recommend using a variety of flexible buildings instead of conventional zoning requirements to address the wide range of uses (including civic) and as the way to realize commercial space. Over time, this approach is more realistic than applying a strict zoning requirement for a land use when there is no market to support its existence.

Main Components of Centers: Each Center consists of interconnected, walkable blocks of commercial or mixed uses in three types of environments focused on one of three types of business/service-oriented activity, as described in the table on the preceding page: Regional Center, Community Center, Neighborhood Center. The second component of each Center is the immediately adjacent area that typically focuses on more intense residential or mixed-use residential. This second component is typically the Urban Residential Neighborhood type and is described on page 12.

In general, the Center is adjacent to the intersection of a collector or side street and a major arterial while the Urban Residential Neighborhood areas are located further into the site, away from the major arterial but with high interconnectivity to the Center. The location of the Center adjacent to a key intersection along a major arterial is critical to the success of the commercial and retail space. It is essential that commercial and retail space be visible to and accessible by community-wide traffic. This highlights the importance of connectivity to draw customers from both the highly visible arterial and from side streets that intersect with the arterial. Instead of the commercial stores being located at the back of a large parking lot, the interconnected models place a few buildings along the arterial to shape the streetscape while providing strong views of the parking for larger tenants farther from the arterial. To further create connectivity, side streets should be inserted into the larger shopping center pattern to break up the mass of the buildings, promote walking from adjacent neighborhoods, and generate an appealing physical character for the shopping center. We recommend that the implementation standards generate blocks and streets that are conducive to retail and business environments which may also need large parking areas while connecting with adjacent neighborhoods.

Buildings and Adjacencies in Centers: Another key factor to address in the implementation standards is how to locate buildings that are meant to attract motorists from arterials and ensure that they are also good neighbors to adjacent residences. This concern is threefold: 1) massing and scale, 2) adjacent outdoor activity such as truck deliveries and 3) connectivity that is inviting, not circuitous and running through the backs of buildings or through large amounts of parking. We recommend that the standards address these issues by providing a variety of compatible building sizes that can be adjacent to each other and still generate an appealing physical character. Some buildings are more appropriate near or facing a large road and some buildings are more appropriate near or facing adjacent residential. Each group of buildings has needs and physical characteristics that can be identified and anticipated. This is in contrast to the typical approach of a setback between buildings based on land use. The setback approach has little effect on buildings that are long, simply making a longer building a bit further away but not really lessening the effects. The key issue to focus on is building size not building use. In response, the requirements need to vary depending upon building height and length for small and large buildings. We recommend that the standards require connectivity along the streetscapes adjacent to facades instead of cutting up a development site with unnecessary and poorly visible pedestrian-only pathways that are not used much.

The land for each Center should be as efficient as possible so as not to result in physical separations that waste land, and to create positive adjacencies with neighboring residences. As a result, the opportunity to mix ingredients will be high. Mixing these ingredients is achievable in a variety of ways: within the same

building, adjacent to one another, or across and down the street from each other. For the mixing to be effective, how and to what degree the mixing occurs needs to be in response to the particular Center and its location, role and intensity.

Component B: Neighborhoods

Terminology: The term "Neighborhood" refers to the primarily residential areas consisting of a variety of housing choices.

Purpose: The main purpose of Neighborhoods is to serve as the primary source of places to live in the area. Neighborhoods comprise most of a traditional city and are shaped by Centers, Districts and Corridors. According to the General Plan, Neighborhoods are to comprise the majority of each quadrant and are to consist mainly of regular neighborhoods of single-family houses.

Application to the BCCP: We recommend that Neighborhoods be made of three types as shown in Table 2: Urban Residential, Neighborhood Residential, and Rural Residential. The appropriate type of neighborhood depends upon many factors such as location, role and intensity. It is important to keep in mind that different neighborhood types can and should be located next to each other for variety, flexibility and adaptation to changing conditions.

Main Components of Neighborhoods: Each Neighborhood consists of interconnected, walkable blocks of housing in three types of environments – Urban Residential, Neighborhood Residential, Rural Residential.

Urban Residential. These areas are the most intense of the three neighborhood types and housing types typically range from rowhouses to courtyard apartments to dense apartment buildings in a variety of sizes. Mixed-use activity typically occurs in the transitions between this neighborhood type and adjacent Districts, Corridors or Centers. Streetscapes are typically shaped by narrow, tree-lined streets with on-street parking and short front yards and entries to buildings directly from the front yard.

Neighborhood Residential. These areas are the typical neighborhood type with housing types ranging from single-family houses to a variety of house-form multi-family buildings such as duplexes and quadplexes in some locations. Streetscapes are typically shaped by tree-lined streets with on-street parking and a variety of moderate to large front yards and entries to buildings directly from the front yard.

Rural Residential. These areas are the least intense of the three neighborhood types and housing types typically range from single-family houses in an agricultural setting to single-family houses in rural settings. Streetscapes are typically shaped by natural features with a rural character along both sides of streets and a variety of large yards around all sides of buildings.

Buildings and Adjacencies in Neighborhoods: The primary building in Neighborhoods is the house and its various multi-family versions. Some of the Urban Residential Neighborhoods will tend to have house-form buildings and larger, more dense residential or mixed-use buildings. In response, we recommend applying the House-Form range of building types that fits each Neighborhood area based on location, role and overall intensity expectations. For example, some neighborhoods might be adjacent to Centers and will likely use the more intense (Urban Residential) end of the House Form range. Other neighborhoods might be adjacent to single-family neighborhoods and will tend to use the middle (Neighborhood Residential) portion of the House-Form range. Other neighborhood residential areas might be adjacent to more rural-oriented character and will tend to use the lower (Rural Residential) end of the House-Form range. The ability of the House-Form range to adapt to these three basic neighborhood environments inherently provides for a realistic variety of housing choices in each Neighborhood and allows each Neighborhood to adjust to its setting and expectations with flexibility and predictability.

Component C: Districts

Terminology: The term 'District' refers to an area that cannot and should not be expected to appear or function as a Center, Neighborhood or Corridor because of its unique size or function typically as Research & Development or Light Industrial.

Purpose: The main purpose of Districts is to enable development that uses land differently than Centers, Neighborhoods, and Corridors to function effectively while integrating into the whole. Districts can range from airports to hospitals to business parks. Some may incorporate residential, retail and commercial but not in the same way as Centers or Corridors.

Application to the BCCP: We recommend two types of Districts as shown in Table 2: Research & Development, and Light Industrial. The appropriate type of District for each quadrant and its locations depends upon many factors such as location, role and intensity.

Research & Development District. These areas are typically high in proportion of employees to building area and have outdoor areas for activities such as light assembly and testing. Streetscapes are typically shaped by tree-lined streets with on-street parking and short front yards or commercial shopfronts along the sidewalk with entries to buildings directly from the sidewalk.

Light Industrial District. These areas are typically low in proportion of employees to building area and have large outdoor areas for activities such as assembly and testing. Streetscapes are typically shaped by tree-lined streets with on-street parking and short front yards or commercial shopfronts along the sidewalk with entries to buildings directly from the sidewalk.

Main Components of Districts: Each District consists of interconnected, walkable blocks that are large enough to accommodate the large sizes of buildings associated with the unique activities of Districts. Blocks are not as interconnected as in other areas of quadrants but are connected to adjacent blocks and their environments.

Buildings and Adjacencies in Districts: The primary buildings in Districts are the largest of buildings in the BCCP. These block-form buildings are sometimes located within the middle of a site but often are toward the street behind a front yard or commercial shopfront to emphasize room in the rear of sites for maneuvering of vehicles and equipment.

Adjacent Neighborhoods are buffered by streetscapes that serve as a physical transition between large office and light industrial buildings on one side of a street to larger residential buildings such as those in the Urban Residential Neighborhood type. Alternatively, transitions can be made at the rear of a District and the rear of a Neighborhood type but this puts more focus on the need for compatibility between outdoor activity on both sides of the boundary.

Where Districts are immediately adjacent to a major thoroughfare, buildings are oriented to front the thoroughfare or at least orient a side of the building along the thoroughfare. In this way, the District does its part to shape and provide identity to the streetscape along major thoroughfares.

Component D: Corridors

Terminology: The term 'Corridor' refers to the land on both sides of a major thoroughfare but only for the half-block or lots fronting the thoroughfare. (Note: If the Plan continues using 'Corridor' as an implementation term, the Plan named should be changed from Bellevue *Corridor* Community Plan to Bellevue Road Community Plan (or another acceptable name).)

Purpose: The main purpose of a corridor is to function as the segment of development and activity between major components such as Centers and Districts and to buffer Neighborhoods from major thoroughfares.

Application to the BCCP: We recommend three types of Corridors as shown in Table 2: Urban Corridors, Neighborhood Corridors, and Rural Corridors. The appropriate type of Corridor depends upon many factors such as location, role and intensity. As the thoroughfare passes through each quadrant in the BCCP, appropriate Corridors will be identified in response to the vision and physical character expected for each area.

Urban Corridors. These areas are typically the Urban Neighborhood Residential environment adjusted for office and housing along major thoroughfares. Streetscapes are typically shaped by tree-lined streets with on-street parking and a variety of modest front yards. Where office activity is described, ground floor commercial shopfronts along the sidewalk provide entries to buildings directly from the sidewalk. Side streets from adjacent areas intersect with the major thoroughfare while maintaining the streetscape and character of the adjacent area.

Neighborhood Corridors. These areas are typically the Neighborhood Residential environment adjusted for the type of housing appropriate along major thoroughfares. Streetscapes are typically shaped by tree-lined streets with on-street parking and large front yards with entries to buildings directly from the front yards. Side streets from adjacent areas intersect with the major thoroughfare while maintaining the streetscape and character of the adjacent area.

Rural Corridors. These areas are typically the Rural Residential Neighborhood environment adjusted for its interface along major thoroughfares. Streetscapes are typically shaped by the nature or rural character along both sides of streets and a variety of the largest front yards in the area. Side streets from adjacent areas intersect with the major thoroughfare while maintaining the streetscape and character of the adjacent area.

Main Components of Corridors: Each Corridor consists of lots that face each side of the major thoroughfare connecting directly to the adjacent blocks in Centers, Neighborhoods, or Districts.

Buildings and Adjacencies in Districts: The primary buildings in Corridors are a variety of house-form and block-form buildings in response to the intended physical character of the particular segment. Adjacent areas and buildings are typically buffered by physical transitions in building scale and massing along the side and rear boundaries of Corridor lots.

General Topics

In support of the Centers, Neighborhoods, Districts, and Corridors that will organize and shape the variety of environments in the BCCP area, we have identified ten key general topics that need to be discussed for direction on their implementation.

1. Transit Priority Project Compliance: The requirements for 'transit priority projects 'are discussed in detail in the transportation analysis being prepared by other members of the consultant team. Key among those requirements are the following: a) minimum 50 percent of the transit priority project needs to be residential, b) the residential portion of the project needs to be at least 20 units per acre, and c) the project must be within a half mile of a major transit stop or transit corridor. We recommend that the above requirements be implemented through standards for the blocks within a half-mile of a major transit stop once those areas are identified in the vision for the BCCP.

2. Open Space, Parks & Plazas. The approach of Centers, Neighborhoods, Districts, and Corridors integrates open space in each of these environments depending upon the intended physical character and land use intensity to be established by the vision: all Centers Neighborhoods, Districts, and Corridors have some form of open space, depending upon location and role in the BCCP. This approach then takes the direction from the General Plan and applies it according to the vision for each environment.

There is a difference between the larger open spaces of Neighborhood areas and the more urban and compact open spaces of Centers, Districts and Corridors. Within Centers, Districts and Corridors, the amount of open space is less important as compared to how that open space, for example an urban plaza, is shaped by non-residential ground floors.

The General Plan establishes an integrated framework of open spaces. Chapter 7 'Open Space, Recreation and Conservation' (page 7-4) identifies eight types of park space ranging from Mini-Parks and Neighborhood Parks to Athletic Parks and Linear Parks. We recommend that upon establishing the intent and role of each quadrant in the BCCP, the corresponding range of appropriate Park Types be identified for adjustment to each environment within Centers, Neighborhoods, Districts and Corridors. This will allow each of these environments to internally distribute its open spaces as needed in the following general manner:

> **Centers.** Open spaces in these environments are the most physically intense and urban of all open spaces in the BCCP. These open spaces are smaller and typically gathering places such as plazas that are often lined by ground floor retail or service businesses.
>
> **Neighborhoods.** Open spaces in these environments are the least physically intense and suburban of all open spaces in the BCCP. These open spaces are larger and typically range from parks and community gardens to playgrounds and sportsfields. Which of these open space types are appropriate depends upon the vision for the area and which of the three neighborhood environments is being applied.
>
> **Districts.** Open spaces in Districts are less frequent than in the other environments and can range from a plaza that serves as an outdoor employee area to more suburban-oriented small parks that can serve as buffers for adjacent blocks.
>
> **Corridors.** Open spaces in these environments tend to be similar to the intensity and size of those in Neighborhoods. These open spaces are typically parks in response to the intended physical character of the adjacent thoroughfare.

Compatibility with nearby and adjacent businesses and houses is key when arranging blocks and placing buildings near open space. As the planning process moves forward, more information will be developed about which open spaces are most compatible with each of the above environments.

3. Scale, Interconnectivity and Compatible Adjacencies. Housing in the Urban Residential Neighborhoods will be the bridge between the typical Neighborhood Residential areas at one end of an area and Centers at the other end. While the Neighborhood Residential areas and Centers only share a boundary with one of these three environments, the Urban Residential Neighborhoods share boundaries with two: the more intense Centers and the less intense Neighborhood Residential areas. The interface between these different environments is critical to effective connections while generating a cohesive whole.

In many successful communities, Urban Residential Neighborhoods seamlessly serve the Centers while being a positive neighbor to the less intense Neighborhood Residential areas. In order to do so, residential development in the Urban Residential Neighborhoods needs to include a range of options for developers and the public that responds to the BCCP vision. In our experience, the most effective way to deal with this issue of adjacencies and transitions is through a combination of flexible blocks and a range of appropriate building types that best fit and function on each type of block. For every physical environment, there are certain buildings and sizes that result in positive adjacencies that can be identified and translated into standards. Similarly, there are buildings and sizes that do not make for appealing adjacencies that can be identified. We recommend that the issues of scale, interconnectivity and compatible adjacencies be addressed in the standards.

In addition to each building needing to be a positive neighbor, each building needs to contribute to the walkable environment of blocks to generate identity while adding to the whole. For example, it is possible to achieve the General Plan's minimum densities and direction for interconnectivity and yet generate an environment that does not result in positive adjacencies. Typically, this occurs by not appropriately connecting the scale (the types and sizes of individual buildings) with frontage (how the facades of buildings shape streetscapes) and streets (the variety of street types that support and generate certain environments).

Aside from knowing how many units a building can generate (its density), it is equally important to know what façade lengths and building heights result from certain building intensities. This information helps us to know the sizes of buildings and their site-needs, which in turn helps to identify the appropriate variety of streets and streetscapes to support these environments. If a building is too large or not large enough, or not located appropriately to the adjacent sidewalk and streetscape, the result can easily become a numerically compliant yet incongruous combination of buildings and environments. These subjects are all interrelated and need to be considered as a part of the whole. The 'whole' being each of the various environments ultimately identified by the vision for each quadrant. We recommend using an approach that identifies the range of building types and sizes for the various types of Centers, Neighborhoods, Districts and Corridors. This information can be adjusted for each location and translated into clear development standards for each implementing zone.

4. Block-Size. Block-size is essential in establishing the degree to which a place is walkable and connected. Block-size is also critical to land use flexibility (see '*5. Block-Size and Land Use Flexibility*' below). Generally, as block-length increases, it becomes less conducive for people to walk. Longer distances between intersections can encourage 'j-walking' and higher vehicle speeds, making the walking experience less appealing. We recommended a block size range of 200 to 600 feet. The blocks in Downtown Merced including the Downtown Neighborhoods are an example of walkable blocks. Most Downtown Merced blocks are 325 by 400 feet with

most including alleys. These blocks provide for high interconnectivity of vehicles and pedestrians while yielding very useable sites for the types and sizes of buildings that could be expected in these environments. The range of land uses appropriate for the intended environment will determine how individual blocks should be developed. For example, block-sizes need to be larger in Districts than in the other three environments. The appropriate range of block sizes for each environment will be based on the vision for each quadrant and its expected environments.

5. Block-Size and Land Use Flexibility. Organizing land into a system of blocks is as old as the practice of making cities and towns. The current practice of carving up land on demand is efficient from the perspective of need but not always efficient from the perspective of future options. Typically, land is carved out in response to a specific project. If that project becomes infeasible or isn't what the current developer wants to do on that site, the carved out land also might become infeasible or unrealistic. As an alternative, using a pattern of flexible blocks allows an owner to map out a preferred pattern that can be adjusted as needs or priorities change while still adding up to a coherent pattern of land uses. Mapping out the potential blocks on a property enables an owner to move forward with different areas of the property while knowing generally how each portion will connect and make sense with the rest. The mapping of blocks only becomes official when a subdivision is approved. Through the recommended approach, there is less need to map blocks and lots prematurely. In addition, using this approach will also help when the market is changing for other types of development that were not anticipated when drafting this plan and standards. Having a system of flexible blocks, the owner can adjust entire blocks or portions of blocks in response. Without a system of flexible blocks, mapping often is at the scale of projects. Projects do not always want to or need to concern themselves with the remainder of a property. Understanding property from the perspective of potential blocks provides a higher degree of understanding about options and flexibility than the current practice of developing superblocks or individual projects.

Implementing Action 1.2.d (page 6-13) states that *"The village street system should provide multiple and parallel routes between the Core Commercial Area and the rest of the village. In no case shall trips which could be internal to a square mile bound by arterials be forced onto an arterial."*

This action requires a network of interconnected streets. We recommend implementing this direction through standards for block-size and streets that make a range of blocks for Centers, Neighborhoods, Districts, and Corridors. An important component of this subject is the frequency of intersections in order for connectivity to disperse rather than concentrate traffic. For example, some plans have addressed 'connectivity' by having a network. But when that network is based on a pattern of fewer connections that force most traffic on to a few rather than more streets, the results are not positive. Over time, these less connected environments tend to dilute and not support the physical character of the adjacent areas. We recommend that the BCCP provide a range of street types for developers to choose from that both work from a circulation perspective to generate effective connectivity and the sense of place and value expected in the wide range of environments throughout the BCCP area.

6. Floor Area Ratio (FAR)

Implementing Action 1.3b (page 6-19) The General Plan states that *"…Commercial areas must be developed at sufficient intensity (typically a Floor Area Ratio [FAR] of at least 0.25) to create a focus of activity at the center of villages.'*

Implementing Action 1.3c states that *'Office areas should be built at an intensity that concentrates activity near transit stops and Commercial Areas.'* Further, this implementing action identifies a FAR of 0.35 to 0.60 as *'encouraged without structured parking and may be as high as 1.0 with structured parking'*.

The FAR requirement is quantitative and does not provide any indication of how the resulting building might be located on its site or how large it may be. Aside from the FAR and overall building height, neighbors or neighboring property owners may have little information about the building(s) that may occur next door. For example, a FAR of 0.25 could mean a single-story building covering ¼ of its site. Or, it could mean a two-story building covering 1/8 of the site and so forth. The implementing action identifies this FAR as a minimum with the next implementing action encouraging a higher FAR for office development. Effectively, the identified FAR range is 0.25 to 0.60 with the higher end of the range expecting office development.

This raises three key questions: 1) How much office is enough to comply with the intent of the General Plan? 2) How is the FAR calculated and is it the best tool for informing standards? 3) What happens when the uses in the building change over time?

All or Some Office? The General Plan language is clear about encouraging office development at a higher FAR than other land uses. As an employment generator, office development is certainly important. However, as stated, does the General Plan prevent a mixed-use building where residential is the majority of the building with an entire ground floor of office? Even if that ground floor is large? The drawing in Figure 6.15 (page 6-24) indicates that the building is not entirely office but the above policy direction could be interpreted a few ways. As currently stated, Implementing Action 1.3c could unintentionally result in smaller buildings than are necessary in the mid-term, possibly resulting in tenants choosing other sites or in demolition and reconstruction of relatively new buildings to suit new tenants. We recommend not connecting land use to the amount of allowable square feet (FAR). Knowing that land use demand will change over time, we recommend identifying the sizes of buildings that are expected and then *accommodating not requiring* the variety of land uses that may be in demand over the long term. We also recommend standards that identify the maximum sizes of buildings (in stories and length, not FAR) depending upon their location and adjacencies along with a set of allowable land uses so that the owner may choose how to occupy the building over time.

FAR Range: Depending upon the particular quadrant, the stated FAR range could be seen as very low. Although the Bellevue Corridor planning area is at Merced's northern end, individual Centers will range in intensity with some at the low end of the allowable FAR and others possibly needing more intensity than a 1.0 FAR. We recommend interpreting this upper limit based on the following discussion.

A key distinction is whether the far is FAR expected in the aggregate for an area prior to making blocks or for the individual blocks once they are identified? If for the entire area, the FAR is high but if for individual blocks and lots, it is low as explained below. It is important to keep in mind that a 'site' being prepared and sold by an owner might be small, ¼ -acre for example. Or, a 'site' might be a five-acre parcel or even larger. While the formula is the same, the meaning of the outcome (maximum FAR) is very different. In both cases, the FAR number is a lump sum. But, the FAR for a ¼-acre site speaks directly to the types and sizes of buildings that can work on the site while the FAR for a five-acre site stays a lump sum that could mean one or many buildings with no indication about size. The lump sum FAR information is useful for quickly identifying the total allowed FAR for an entire area but because it still has to be interpreted as to how many buildings and of what size, the tendency is to decrease these numbers. The reasoning is usually that such an amount is substantial and perhaps too much to deal with for an area, leaving the questions to the application-review process.

If the FAR is intended to simply forecast how much commercial or mixed-use square footage is expected in areas, this needs to be understood. It is critical to avoid confusing the role of FAR with regulation. As discussed, FAR is excellent at measuring how much development is expected. But, it is far less effective at informing the actual development of individual blocks and sites. We recommend keeping the FAR information at the aggregate level, as a maximum to inform infrastructure capacity, for example. Then, along with the vision, we recommend identifying the appropriate types of buildings and their associated outcomes to generate standards that deliver the range of expected outcomes. In this way, the FAR is applied at the policy level and does not have to continue as a layer of regulation. Often, this process is reversed: FAR limits are established and the vision is to conform to that abstract numerical direction.

7. Retail and Civic Land Use Activity: The General Plan description of commercial areas (Section 6.4.2) identifies retail and civic uses as key components of commercial areas. The ability to realize shops and civic uses is dependent upon when shops and civic uses are supportable by customers. As any land use activity responds to the needs of the area and the population, it is especially true for shops and civic uses: Shops won't appear until a sufficient customer base is established. We recommend that the approach for involving these uses be to *enable rather than require* shops and civic uses. The possibility for shops, office space and civic uses needs to in place so that when the timing is correct, those uses can be realized and located effectively. We recommend allowing buildings that in the short term utilize ground floors and upper floors for other uses but in the long term can easily be converted to shops, office space and civic uses. This gives property owners the option of moving forward while avoiding a scenario that may result in vacant land for years while waiting for the shops, office space and civic uses to be built from scratch. This approach requires a change to how parking standards are currently calculated. We recommend that except for residential buildings which should have their parking on the same site as the dwellings, non-residential parking be handled in a grouped manner as is practical for the location. This allows the sharing of parking spaces as in shopping centers and reduces unnecessary parking spaces while letting that land be used in other ways.

8. Residential Density

Implementing Action 1.4a (page 6-25) states *'A mix of residential densities, ownership patterns, cost, and building types is desirable in Villages.'*

Figure 6.16 'Housing Types' of the General Plan identifies 12 housing types ranging from a 'Carriage House' to 'Garden Apartments'. This range of choices is very broad and the information and graphics are abstract, and are intended to be developed further for implementation. The chart has minimal information about each housing type, however, it provides specifics such as '*maximum 3 stories*'. The following numerical direction is provided in the descriptions of housing types on pages 6-27 through 6-29:

	Single-Family Housing Types		Multi-Family Housing Types
	Gross Density Range per Acre	Density Range w/ancillary unit	Density Range
Zero-Lot Line Homes	7 - 10	17.5	
Small-Lot Single Family Homes	6 - 8	14	
Standard Lot Single-Family Homes	2 - 6	10.5	
Estate Residences	Up to 2	3.5	
Podium Apartments		n.a.	20 - 30
Garden Apartments		n.a.	16 - 22
Small Multiplexes		n.a.	10-18
Townhouses			10 - 20

The above information raises a few questions: What if there are emerging or recent housing types that would fit well in Merced but are not implicit in the above list? In addition, such numbers, while accurate about certain outcomes, reflect a certain set of assumptions that may or may no longer apply. For example, by adjusting the size of a lot by a small amount for very good reasons, the above assumptions can change substantially and a proposal may technically be out of compliance despite being a good idea and within the vision. Last, the term 'housing type' is accurate as long as all of the building is used for residential purposes. But what if a building contains mostly housing but has some non-residential activity? That possibility appears to only exist by viewing a commercial building as having some housing in it. But then what direction is there about the density of housing in those cases?

We recommend the Block-Form and House-Form approach as a way to transition the housing type information in the General Plan to a robust and flexible system that will translate the policy direction into standards for the BCCP.

9. Block-Form and House-Form Buildings. Another way to describe and understand density-related terms is to consider them within the context of what is physically intended in the each Center, Neighborhood, District, and Corridor. Centers are intended for the highest of density while at the other end of the spectrum are Neighborhood areas: Urban Residential, Neighborhood Residential, and Rural Residential. In between these two ends of the spectrum are Districts and Corridors. Using a scale of size and intensity that sorts buildings into two categories (Block-Form and House-Form), the appropriate buildings and sizes can be identified for each environment. Buildings in Centers, Districts and Corridors fall into mostly the Block-Form category with some House-Form buildings. Buildings in Neighborhood areas fall entirely into the House-Form category. Most regulations and policies are not equipped to make this distinction and as a result, rely on vague or complicated mathematical approaches.

House-Form buildings. These are buildings that regardless of land-use, are the size of what most people would expect for houses, including large houses. While there are certain repeating characteristics from one community to another, the parameters for 'House-Form' buildings in Merced need to be identified through the process of preparing the standards.

Block-Form buildings. These are buildings that are either individually small but abut to form a block or large buildings that occupy portions of blocks or entire blocks. Centers, Districts and Corridors may include some House-Form buildings but consist primarily of Block-Form buildings.

The House and Block building forms each have a variety of *building types* not *housing* types to choose from according to need and intended physical character. Each building type has inherent density and size outcomes that can be expressed, discussed and adjusted. The House-Form and Block-Form approach replaces the FAR and density approach, which typically imposes arbitrary numerical limits not connected to physical realities. The House-Form and Block-Form approach begins with identifying the range of buildings and sizes that could be expected in the BCCP, then identifying the numerical resultants of those buildings. Within these two categories of buildings, owners will have several choices to apply to their property in a variety of ways.

Through the recommended approach above, the issue of density is moot as it is controlled directly by parking. This approach requires some additional thought when initially proposing the building in order to provide flexibility on the site for less or more parking over the life of a building. However, this approach lets the building be pursued as a reusable container regardless of density.

Policy direction can be articulated throughout the BCCP in a way that is based on the physical realities and needs of buildings. For example, instead of requiring minimum densities in a particular area, which may be impractical or may leave out good ideas because of numerical limits, this approach enables the selection of appropriate building types based on relevant factors that are connected to the intended physical environment. This approach also enables policy direction for 'mixture' of certain densities to be more realistically implemented by identifying the appropriate building types and then establishing percentage ranges for mixing by location.

10. Implementation through Zoning and Standards. The above information will guide how the BCCP vision is expressed at the policy level and ultimately in implementing standards. The proposed structure of Centers, Neighborhoods, Districts and Corridors is easily translated into zoning and standards that deliver the vision one project at a time while adding up to a desirable whole. Such standards range in level of detail according to the desired level of regulation for the expected results across the 2.5 square-mile area. Some areas might need

or warrant more detailed standards while other areas or topics might benefit from less detail. The system we can apply is in direct response to the proposed structure described in this memo and adjustable across a number of topics. First, however, upon the vision being established, we will test the City's zoning and standards that could be used in the BCCP to determine if the vision is implementable through those standards.

Technical Appendix J, "Relevance of the Urban Land Institute Report to the BCP"

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J.1 Urban Land Institute (ULI) Panel Assignment

The *Urban Land Institute (ULI) Advisory Panel* was requested to identify and describe a path to the most cost-efficient and programmatically effective means to meet its capital facility requirements in order to achieve a 10,000 student enrollment by the year 2020."

While the topic of the ULI Report is growth of the UCM Campus, the report accurately identified the importance of local leadership and resources as key elements to address the challenge. The City of Merced's planning project, the *Bellevue Community Plan* (BCP), is a pivotal component of these potential resources. This technical memorandum presents recommended policy concepts the BCP can make which support the university's efforts to grow.

J.2 Urban Land Institute (ULI) Panel Recommendations

J.2.1 Overview

The Urban Land Institute (ULI) Report includes seven recommendations, in the form of steps (below), to achieve benefits and opportunities in satisfying the university's interest to meet its capital facility requirements in order to achieve a 10,000 student enrollment by the year 2020.

Steps

Step 1: Get Real Estate Expertise

Step 2: Solve the Infrastructure Problem

Step 3: Develop a Strategic Plan for the Brand

Step 4: Identify Immediate Building Projects

Step 5: Find Money

Step 6: Evaluate Each Project Using the Guiding Principles

Step 7: Build

Other than Step 1, all of recommendations could have some application to the BCP. Excerpts from the ULI Report comprise the entirely of Section J.2 (other than topic headings); the page number where the citation can be found is provided in parenthesis.

J.2.2 Solve the Infrastructure Problem

Common Purpose/Collaboration: Key services and infrastructure required by the university must be delivered by the city even though the campus is not currently within the city limits. UC Merced is therefore required to work closely with both the city and the county of Merced, which frequently have conflicting priorities and objectives. Developing the next phase of UC Merced requires that the university, the city, and the county work together more effectively and with a common purpose. They must increase the frequency and enhance the quality of their communication and work in a more collaborative way. Currently, monthly meetings are held by the city, the county, and the university to ensure that communication among them is maintained. These meetings have yet to address the obstacles to UC Merced's growth, such as accelerating the annexation of the campus by the city (pg. 14).

Annexation/Service Needs/Traffic Mitigation: Solve the problems of annexation into the city, future service needs, and potential traffic mitigation with the city of Merced, Merced County, and key surrounding landowners by reaching revised agreements that reflect the current conditions of the campus and its projected growth. This step is likely to be the linchpin in the entire development process and must be tackled and resolved quickly and efficiently (pg. 12). The resolution of annexation and on- and off-site infrastructure issues is the major and critical impediment to building out the remaining campus and realizing the goal of 10,000 full-time-equivalent students. A significant issue uncovered by the panel is that rigorous analysis, and identification and evaluation of alternative project delivery strategies for on- and off-site infrastructure have not been performed to shape the implementation of campus development (pg. 14). The proportional off-site infrastructure costs imposed on the university by the city and the county for its share of offsite infrastructure are based on the campus's full buildout projections of 25,000 students (pg. 18).

Annexation/Infrastructure:

"The resolution of annexation and on- and off-site infrastructure issues is the major and critical impediment to building out the remaining campus and realizing the goal of 10,000 full-time-equivalent students."

- Given UC Merced's revised medium-term buildout to 10,000 full-time-equivalent students, these infrastructure cost allocations should be revised. For example, current wastewater facilities may be adequately sized to meet the 10,000 medium-term target. Given the new growth target, the university should revisit capital commitments for the Campus Roadway and Bellevue Road (pg. 19).

- As the university renegotiates its off-site infrastructure commitments, it should also develop a strategy to guide its decision on whether to be annexed into the city (pg. 19).

J.2.3 Develop a Strategic Plan for the UC Merced Brand

Clarify and Re-message the UCM Brand: Underlying the challenge of building better relationships with all the stakeholders described is the lack of a clear vision of UC Merced's "brand." This absence of a coherent message puts the university at a competitive disadvantage, compared with its more mature sister campuses in the UC system (pg. 15).

Linked Fates: The fates of UC Merced and the city of Merced are inextricably linked. Many panel interviewees indicated they believe that the current quality of life, local workforce capacity, education, amenities, and so on in the city of Merced challenge the growth of the university (pg. 14). The university is also handicapped by a negative perception of the city of Merced (pg. 15). Every real estate and planning decision should reinforce the UC Merced brand (pg. 23)….. Such actions include ……boosting the local economy (pg. 23).

Fates

"The fates of UC Merced and the city of Merced are inextricably linked."

J.2.4 Identify Immediate Building Projects

Maximize infill development On-Campus: This (step) is likely to necessitate swapping uses within the LRDP to target the "low-hanging fruit" (pg. 12). Revising the land use plan to maximize infill development opportunities on the existing campus footprint would more efficiently make use of surface parking lots and other underused land already within the campus's original "golf course" footprint, ensuring adequate infrastructure (pg. 27).

Maximize Admin Space Off-Campus: The panel believes that a decentralized campus model for academics and core student services will not move the university toward its enrollment goals, and the university has recognized through its own self-assessment that it should preserve the limited space on campus for those with direct interaction with students. The self-assessment, which is to be reviewed annually, seeks to maximize the amount of administrative space that can be located in other

Decentralized Campus

"The panel believes that a decentralized campus model for academics and core student services will not move the university toward its enrollment goals."

places (pg. 26).

Consolidated UCM Office Space in Downtown Merced: Using space on campus more efficiently will result in a growing number of off-campus office space needs. The panel recommends that off-campus space be consolidated in downtown Merced for both its cost-effectiveness and to take advantage of the opportunity the location provides for enhanced community relationships and downtown revitalization (pg. 28).

J.2.5 Find Money

Development of Private Property near the Campus: The long-term development of the campus surroundings depends on high-quality collaboration with the owners of land to the immediate south and west of the campus site. These individuals and entities have a direct interest in the continued development of the UC Merced campus. Development on their properties using private capital could be an important component of solving the space and student housing needs of UC Merced (pg. 14).

Funding Research Operations and Facilities: Today's research universities depend on strong partnerships with private sector entities to help fund research operations and facilities and to disseminate that research to a worldwide audience. Relationships with industry partners who could be vital to the development of UC Merced's research capability remain embryonic. This situation seems in part to stem from lack of a clear research mission or brand for the university as well as lack of resources to build such relationships. Attracting private sector capital to help fund the growth and expansion of the UC Merced campus is one of the few funding sources currently available (pg. 14).

Collaboration with Adjacent Land Owners

"Development on their properties using private capital could be an important component of solving the space and student housing needs of UC Merced."

Recapture UCM Capital Costs: "Community North" represents an excellent opportunity for the university to recapture its capital costs to build the UC Merced campus. Explore additional financing mechanisms (grants, tax credits, etc.) that may be available to private developers in a PPP structure to drive down costs and render costs neutral to the university over time (pg. 31).

J.2.6 Evaluate Each Project Using the Guiding Principles

Engagement/Catalyst: Support and Nurture the City of Merced First: UC Merced real estate holdings, leases, operations, and outreach activities should support and nurture the city of Merced first and second the San Joaquin Valley region (pg. 23).

On-site Space and Use Efficiency: The University has limited shovel-ready land and entitlements with which to satisfy the need for various kinds of office, academic, and lab space as well as housing, including complementary off-site markets, otherwise known as *captive demand* (pg. 23).

Nurture the City of Merced

"UC Merced real estate holdings, leases, operations, and outreach activities should support and nurture the city of Merced first and second the San Joaquin Valley region."

On-site Space and Use Efficiency: A project cannot be sustainable if it does not reduce the university's environmental footprint, does not meet the needs of the community, and is not affordable to the end user. UC Merced must seek innovative ways to make sustainability a reality (pg. 24).

Flexibility: The 2009 LRDP should be considered a living document, a template that must adapt and grow. In terms of control, a key idea is that the university gives up a little to gain a lot; one gain is flexibility. This requires using the best public and private thinking and resources to deliver new assets (pg. 24).

J.2.6 Build

Traffic Impacts of Remote Campus: The remote campus location is creating significant traffic mitigation issues, including high off-site traffic infrastructure costs, parking issues, and lot costs. The university is trying to reduce vehicle miles traveled by single-occupant vehicles by offering a very good bus shuttle system; however, the buses seem to be under or inappropriately used (for example, by staff parking at Castle Airport Aviation and Development Center, in Atwater, and riding to main campus) and expensive to run because of frequency and trips to Castle (pg. 17). A disadvantage to the property (Castle Airport Aviation and Development Center) is its distance from the main campus relative to its use, especially by undergraduate students, and the transportation and associated costs that this distance begets (pg. 17).

Remote Campus

"The remote campus location is creating significant traffic mitigation issues, including high off-site traffic infrastructure costs, parking issues, and lot costs."

Housing Needs/Location: Currently, graduate students do not have an option for on-campus accommodations (pg. 21). The price differential (between on-campus and off-campus housing) would make off campus housing attractive to upper-class students, even if the supply of on-campus housing were greater (pg. 22). Many students rely on the free UC Merced bus transportation system, CatTracks, to reach campus and the Merced County Transit "The Bus" to move around the city. Unfortunately, CatTracks does not run continuously and has been known to reach capacity during peak periods. The presence of students in these single-family communities also does not promote the idea of walkable neighborhoods or the use of alternative forms of transportation (pg. 22).

J.3 Recommended BCP Policy Concepts

J.3.1 Overview

Based on the recommendations of the ULI Panel (presented above), City of Merced Planning Staff crafted recommended policy concepts to be incorporated into the *Bellevue Community Plan* (BCP) policy set (see Technical Appendix C). For referencing purposes, following each policy concept, in parenthesis, are references back to the ULI Panel recommendations.

J.3.2 Policy Concepts

1. Include BCP as a key document in the collaborative working group's toolkit as they continue to discuss and influence future development actions near the university (Collaboration, Step 2).

2. Recognize that a separate rigorous analysis, and identification and evaluation of alternative project delivery strategies for on- and off-site infrastructure to be utilized by UCM, the BCP and the UCP, may influence the development and implementation of the community plan (Annexation/Infrastructure, Step 2).

3. Among various BCP annexation scenarios will be the exploration and support for urban growth immediately west of the Campus, which would enable urban infrastructure, private investments, expansion of local economy, and resources for complimentary land uses (Fates, Step 3; Catalyst, Step 6).

4. Encourage the placement of UCM office space in downtown Merced, but allow it within the BCP planning area when it does not conflict with the collaborative

goals of the university and community (Downtown UCM Offices, Step 4; Efficiency, Step 6).

5. Encourage the placement of temporary parking facilities within the BCP, in a manner that supports the goals of UCM while fitting into a logical phased development within the BCC area (On-Campus Infill, Step 4; Efficiency, Step 6; Traffic Impacts, Step 7).

6. Provide opportunities near UCM to entitle compatible off-campus services needed by a large academically-focused population (On-Campus Infill, Step 4; Catalyst, Step 6; Traffic Impacts, Step 7).

7. Encourage development of student housing throughout the plan area over the long-term, but emphasize the possibility of locating this use adjacent to the campus in the near-term (Develop Private Property, Step 5; Efficiency, Catalyst, Step 6; Traffic Impacts, Step 7).

8. Support efforts that guide UC Merced real estate holdings, leases, operations, and outreach activities in a manner that nurture the City. Utilization of infrastructure for development of lands within the BCP, presents an opportunity to nurture the City (Catalyst, Step 6).

9. Include land use designs and policies that result in the attraction of private sector capital to develop research operations and facilities, both on and off campus (Research, Step 5; Catalyst, Step 6; Traffic Impacts, Step 7).

10. Utilize the BCP as a living document, a template that can adapt and grow, and be flexible to the changing market and implementation methods. (Flexibility, Step 6).

Technical Appendix K, "Anticipated Research and Development"

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K.1 Executive Summary

The paper describes the planned amounts of space anticipated for R&D sites within the UC Merced Campus and the University Community Plan. The data sources for this description are threefold:

- 2009 UCM LRDP
- 2004 University Community Plan
- 2008 EIR/EIS for UCM Phase 2020 and the University Community

Appendix K Findings:

Within the Campus: 75 acres (or 40 acres) for R&D. No plan has stated an actual amount, though the 2009 UCM LRDP includes bulk standards. Assuming a 40-acre site developed with the range of intensities described in the 2009 UCM LRDP, approximately 588,000 sq. ft to 1,672,640 square feet of building space for Research and Development use are contemplated to be sited on the UCM campus. This figure would almost double if 75 acres were dedicated for these uses.

Within the UCP North area: The revised land use plan for Community North provides about 100 acres in the northwestern portion of Community North for the development of the Gateway District, which would focus on R&D and would be adjacent to similar R&D land uses on the campus. This area would be developed with approximately *2.3 million square feet* of building space that would house research laboratories and industrial R&D.

Within the UCP South area: No R&D has been planned in the 2004 UCP or the 2009 EIS/EIR.

K.2 Information from the 2009 UCM LRDP

K.2.1 Overview

The campus extends over 815 acres and features six land use types. [1] These include, 1) Academic Core; 2) Campus Services; 3) Student neighborhoods; 4) Parking; 5) Athletics and Recreation; and 6) Passive Open Space. These are described below. The Campus would ultimately serve 25,000 FTE students and an associated faculty of 1,420, 4,828 staff, and about 312 postdoctoral researchers (total 6,560 FTE employees). [21] The "academic core" includes 75 acres of research & development. Within the Gateway District, the campus area will include academic buildings oriented towards research.

- **Academic Core - 200 acres**
  Academic/Laboratory 115 acres
  Research & Development 75 acres **(**Within the Gateway District, the campus area will include academic buildings oriented towards research).
  Alumni/Conference Ctr. 10 acres

- **Campus Services - 40 acres**
  Corporation Yard 10 acres
  Logistics/Receiving 15 acres
  Central Plant/Energy Ctr. 13 acres
  Public Safety 2 acres

- **Student Neighborhoods - 225 acres**
  Student Services 30 acres
  High Density Residential 25 acres
  Medium Density Residential 90 acres
  Low Density Residential 80 acres

- **Parking - 110 acres**
  Parking Structures 12 acres
  Distributed Lots/Streets 98 acres

- **Athletics and Recreation - 140 acres**

- **Passive Open Space 100 acres**

TOTAL: 815 acres

R&D at UCM Academic Core

The "academic core" includes 75 acres of research & development. Within the Gateway District, the campus area will include academic buildings oriented towards research.

K.2.2 The Gateway District [2]

Within the Academic Core is the Gateway District, a the link between UC Merced's core mission of focused education, research and public service on the one hand and the private sector and Valley communities on the other. The Gateway District establishes a presence that reinforces three key elements:

- ***The Public Face***

  The Gateway District is the public face of the university in that its location represents the relationship between UC Merced and the larger community.

- ***Community Link***

  As evidenced by its prominent location, the Gateway District and the research activities that occur here link the university as a resource to the region. Its proximity to the *Academic Core* makes it close enough to campus for students to contribute to Gateway District research.

- ***Entrepreneurial Venue***

  The Gateway District is also a resource for public-private ventures and a means for expression of the growing entrepreneurial culture at UC Merced. The most outward directed and dynamic research and educational programs will migrate to this area because of its easy public access and the potential for joint venture relationships. Bordering it to the south in the University Community area owned by the UCLC is a proposed Research and Development District. This will provide additional resources and potential for a variety of implementation mechanisms to facilitate joint ventures and commercial relationships.

Gateway District

The Gateway District would primarily include academic and industrial joint-development research activities.

Throughout the 2009 UCM LRDP, the ***Gateway District*** is described as follows:

- Containing collaborative research buildings. [5]
- The Crescent (in the Gateway District) will be an important address for the future research and development activities. [6]
- The Crescent is the symbolic business address for the research and development uses in the Gateway District. This landscaped pedestrian-friendly street will act as the front door address for collaborative ventures interfacing with the campus.[7]

- The Gateway District would primarily include academic and industrial joint-development research activities.[8]

K.2.3 Site Design Descriptors [9]

Industrial Research Block will be located within the Gateway District. These blocks are dedicated to joint development with industry. As commercial ventures, these blocks may require on-site parking. Other supporting uses in the district would include parking, transit facilities, and research-related office and administrative activities.

Illustrated Example

This example illustrates a commercial-style research park with surface parking, but with higher density and less parking than found in most suburban developments (increased from 0.30 FAR to 0.45 FAR). There are three buildings illustrated from one to two stories.

Block Size: 3 acres

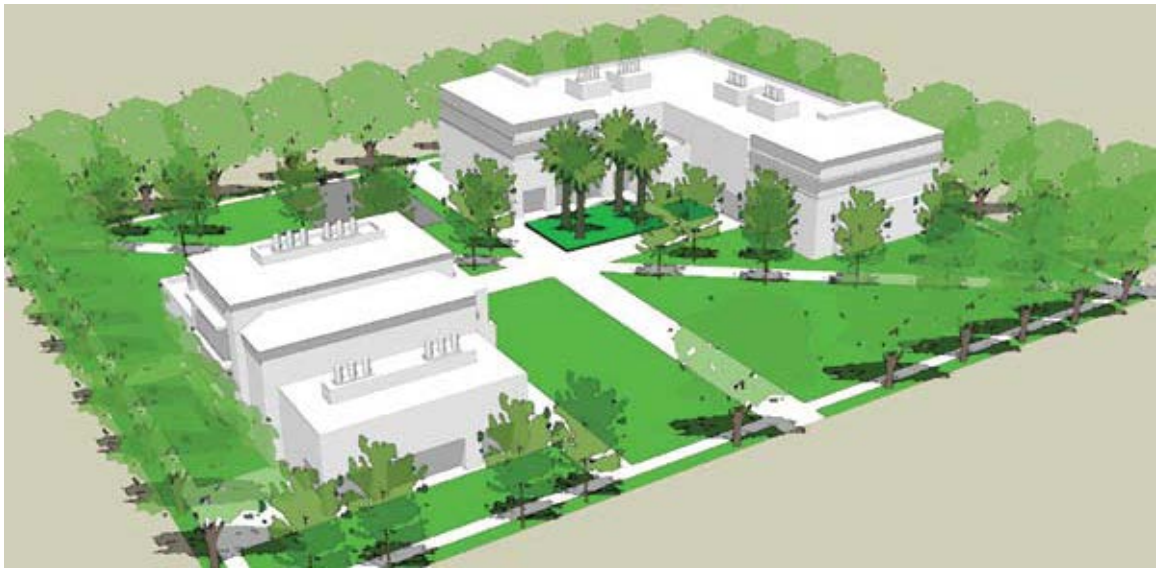
Land Use: Industrial Research Buildings (1L-3L)

Net Density (on 3 acre block):
0.45 FAR x 130,680 SF site area = ***58,800 SF, or 19,600 sq. ft. per acre.***

Gross Density (assumes 75% efficiency for streets):
0.34 FAR x 130,680 SF site area/.75 = ***44,100 SF, or 14,700 sq. ft. per acre.***

Building Height: 80' [10]

The **Industrial Research Block** will be located within the Gateway District. These blocks are dedicated to joint development with industry. As commercial ventures, these blocks may require on-site parking. Other supporting uses in the district would include parking, transit facilities, and research-related office and administrative activities.



Illustrated Example

This example illustrates the character and site coverage of blocks that share parking with UC Merced or have structured parking. There are two buildings ranging from three to four stories.

Block Size: 3 acres

Land Use: Industrial Research Buildings (1L-3L)

Net Density (on 3 acre block):
0.96 FAR x 130,680 SF site area = ***125,450 SF, or 41,816 sq. ft. per acre.***

Gross Density (assumes 75% efficiency for streets):
0.72 FAR x 130,680 SF site area/.75 = ***94,090 SF, or 31,363 sq. ft. per acre.***

Building Height: 80' [10]

K.3 2004 University Community Plan

K.3.1 Overview

The anticipated development of the University Community at build-out is correlated with the planned enrollment and staffing of UC Merced and is described below. As shown, the University Community will occupy approximately 2,133 acres of land and contain 11,616 residential units, 716,000 square feet of retail, 1.3 million square feet of office/research and development space, and seven public schools. [11]

R&D in the UCP

Approximately 400,000 square feet is anticipated for Research and Development and located in the "Town Center" portion of the UCP.

- **UC Merced Campus Generated Population**
  Students / 25,000
  Faculty / 1,420
  Staff / 4,828

  Direct Campus Population / 31,248

- **University Community Residential Development**
  Single-Family / 6,968 Units
  Multi-Family / 4,648 Units

  Total / 11,616 Units

- **University Community Commercial Development**
  Retail / 716,000 Square Feet
  Office/Research and Development (R&D) / 1,307,000 Square Feet

  Total / 2,023,000 Square Feet *{per Table 2, page 28 of the UCP, of this amount, 400,000 square feet is for R&D and to be located in the "Town Center" portion of the UCP}. Also see* Policy LU 4.4

- **Public Schools (Estimated)/ 7**

- TOTAL: 2,133 acres

The amount and type of land use planned for the University Community is based on an analysis of the socio-economic impact of the UC Merced campus. Specifically, UC Merced through its population of students, faculty, staff, and their families, as well as their expenditures and the expenditures of the University itself, will create a demand for housing, retail, and other locally produced goods and services. The corresponding amount of residential, commercial, and industrial real estate demand generated by UC Merced has provided a point of reference for determining the development potential of the University Community. [11]

K.4 2008 EIR/EIS for UCM Phase 2020 and the University Community Plan

K.4.1 Overview

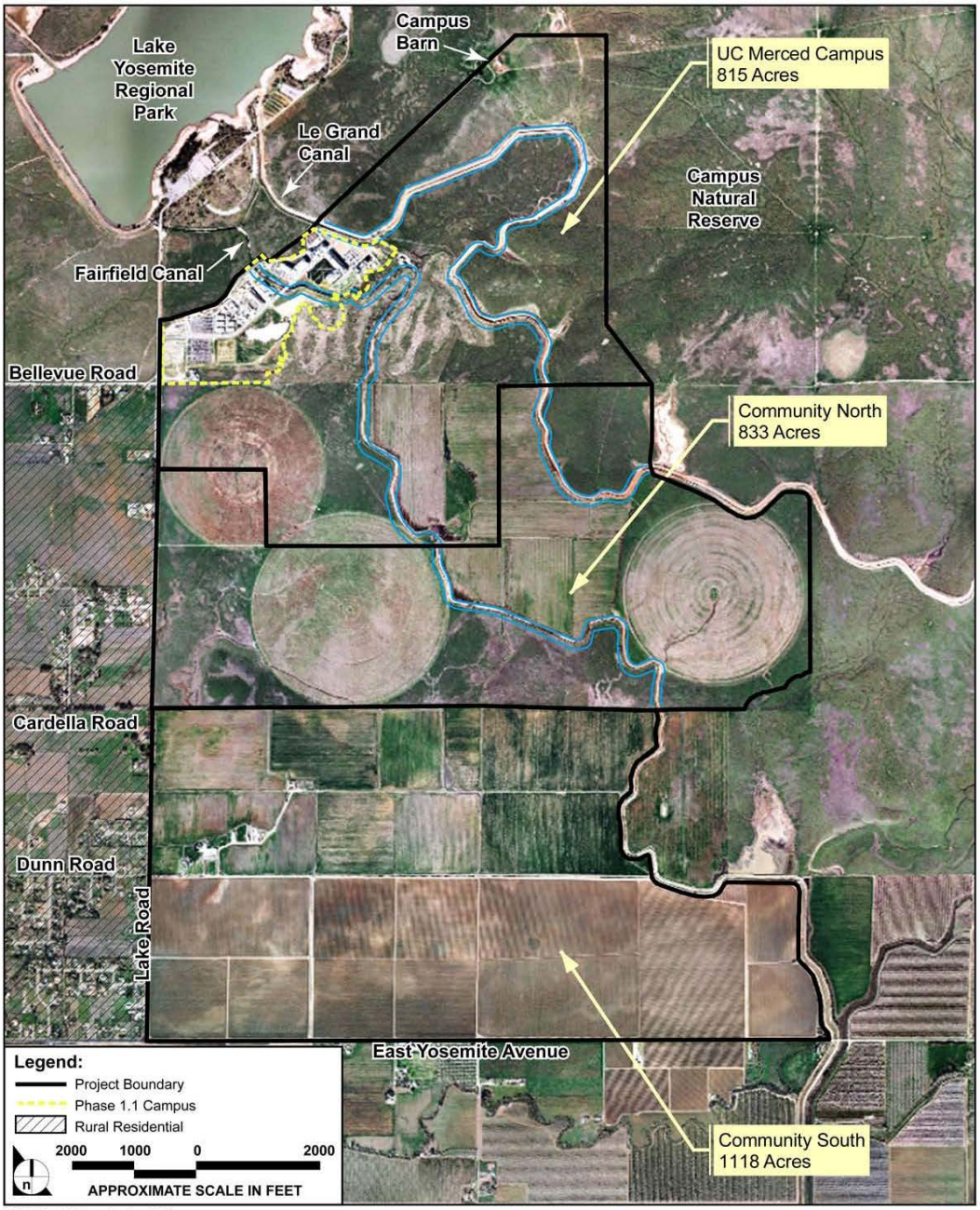
Changes to both the Campus and the University Community have resulted in the development of revised land use plan proposals for both the Campus and Community North. [18] Acreage changes from the 2002 UCM LRDP and 2004 UCP Plans to the 2008 EIR/EIS are described below. [19]

Current Acreages of UCM and UCP	
Plan Area	**Acres**
UCM Campus	815
Community North	833
Community South.	1,118
UCP subtotal	*1,951*
Total	**2,766**

K.4.2 2008 EIR/EIS Project Area Description

Overview: The project site is composed of approximately an 815-acre Campus and a 1,951-acre University Community (Yosemite Avenue forms the southern project site boundary). The University Community is itself organized into an 833-acre Community North and 1,118-acre Community South. [13] Detailed Descriptions: The Proposed Action encompasses two major areas: the UC Merced Campus and the University Community. The UC Merced Campus includes the 815-acre Campus that would be built with academic buildings, student housing, campus support, recreation facilities and infrastructure, and a 1,307-acre Campus Natural Reserve that would not be developed. The University Community comprises the 833-acre Community North and the 1,118-acre Community South. Community North would be developed with a town center, business park, residential neighborhoods, parks, open space, schools, and other amenities. With respect to Community South, it is anticipated that this approximately 1,118-acre area would be developed in accordance with the previously adopted University Community Plan. The University Community would include 11,616 dwelling units and a total residential population of about 30,780 persons. [14]

2008 EIR/EIS Project Areas:



SOURCE: UC Merced – June 2008

FIGURE 2.0-2

Campus and University Community Planning Areas

974-001•10/08

K.4.3 Land Use Changes in the 2002 UCM LRDP and 2004 UCP Plans [19]

Along with the change in acreage to the Campus and the University Community, the EIR/EIS project description included changes in land use; these changes are described in the table below.

Table 2.0-1: Proposed Changes to the UC Merced LRDP and UCP [20]

Parameter	Previous Proposal	Current Proposal
UC Merced LRDP		
Campus Land Area	910 acres	815 acres
Campus Land Reserve Land Area	340 acres	0 acre
Campus Natural Reserve Land Area	750 acres	1,307 acres
Total Enrollment at Buildout	25,000 FTE	25,000 FTE
Total Faculty and Staff at Buildout	6,248 FTE	6,560 FTE
Total Students Housed on Campus	12,500 (50%)	12,500 (50%)
Total Faculty Housed on Campus	710 (50%)	0
Total Academic Building Space *	**3,560,000 gsf**	**6,250,000 gsf**
University Community Plan		
Total Land Area	2,133 acres	1,951 acres
Total Residential Area	1,132 acres	1,024 acres
Total Number of Residential Units	11,616	11,616
Total Mixed Use/Retail/Office/R&D Acreage	96 acres	129 acres
Total Mixed Use/Retail/Office/R&D Building Space *	**2,023,000 gsf**	**3,696,700 gsf**
Total Residential Population (head count)	30,782	30,782
Total Employment (head count)	5,524	10,244

gsf= gross square feet

* These are discussed in greater detail in sections K.4.4 and K.4.5 below.

K.4.4 2008 EIR/EIS / Total UCM 2009 LRDP Academic Building Space

Table 2.0-2: Major Land Uses Proposed in 2009 LRDP [22]		
Land Use	**Approximate Acreage**	**Building Space/Units**
Academic Core	200	6,250,000 sf
-Academic/Laboratory	-115	
-Research and Development	-75	
-Alumni/Conference Center	-10	

The 200 acres includes administration space

The "Academic Core" would also include ***a 40-acre block*** [but, table above notes 75-acres] that would be located near the intersection of Bellevue Road and Lake Road and used to site facilities for nonprofit or grant-based research programs. This area ***may also include*** a research park that would be used for research collaboration with outside entities, including for-profit organizations, similar to research parks at Stanford University and UC Irvine. [23]

Generally, on-campus research areas are required for research that needs to be near the central campus but does not absolutely require, or is unsuitable for, contiguity with the academic area. Such research may be under the aegis of UC, but could be funded independently or managed by a private for-profit or non-profit entity. Some UC campuses host research entities that are wholly or partially independent of the University. Many businesses and industries look for opportunities to locate near research universities to improve access to future employees with advanced training and access to new knowledge. [23]

Campus research parks also are incubators for new companies that benefit from the increasing rate of technology transfer from basic to applied research and on to real-world applications. The on-campus location enriches the research environment by offering opportunities for extramural research collaborations and graduate student and undergraduate employment and internships. It is also an important factor in attracting top-quality faculty to the new campus and generating informal, spontaneous interactions, which contribute to successful research partnerships. Additional research and development land uses would be distributed within the academic core in clusters of interdisciplinary research facilities, which would facilitate cross-disciplinary collaborations within the academy. [23]

K.4.5 2008 EIR/EIS / University Community Plan / Total Mixed Use/Retail/Office/R&D Building Space

Gateway District

The UCP, as previously adopted in 2004, included 22 acres of land for the development of 400,000 square feet of research and development (R&D) space. The revised land use plan for Community North provides about 100 acres in the northwestern portion of Community North for the development of the Gateway District, which would focus on R&D and would be adjacent to similar R&D land uses on the campus. This area would be developed with approximately 2.3 million square feet of building space that would house research laboratories and industrial R&D. The distribution and amounts of retail, office and research and development land uses are described in the table below.

Table 2.0-6: Major Land Uses in the 2009 Proposed University Community [24]

	UCP North	**UCP North**	**UCP South**	**Total**
Land Use	Town Center	R-Neighborhood	Villages	
Retail				
Acres	8	6	15	29
Square Feet	130,700	78,400	250,000	459,100
Office				
Acres	5	0	9	14
Square Feet	292,700	0	140,000	432,700
Research and Development				
Acres	71			71
Square Feet	2,308,300			2,308,300
Mixed Use				
Total Acres	15			15
Retail (sf)	183,000			183,000
Office (sf)	313,600			313,600
Housing Units	540			540

Table 2.0-7: University Community Population [25]

Total Population	**Community North**	**Community South**
Residential Population	15,351	15,431
Employment	9,219	1,025
Total	**24,570**	**16,456**

Bibliography of Appendix K

1. UCM 2009 LRDP, page 47
2. UCM 2009 LRDP, page 48
3. UCM 2009 LRDP, page 49
4. UCM 2009 LRDP, page 68
5. UCM 2009 LRDP, page 68
6. UCM 2009 LRDP, page 72
7. UCM 2009 LRDP, page 72
8. UCM 2009 LRDP, page 126
9. UCM 2009 LRDP, page 130-131
10. 2004 UCM 2009 LRDP, page 135
11. 2004 UCP, page 9
12. 2004 UCP, page 12
13. 2008 DEIR/EIS, page ES-1
14. 2008 DEIR/EIS, page ES-6
15. 2008 DEIR/EIS, page 1.0-2
16. 2008 DEIR/EIS, page 1.0-2
17. 2008 DEIR/EIS, page 1.0-5
18. 2008 DEIR/EIS, page 1.0-5
19. 2008 DEIR/EIS, pages 1.0-3 to 5
20. 2008 DEIR/EIS, page 2.0-11
21. 2008 DEIR/EIS, page 2.0-18
22. 2008 DEIR/EIS, page 2.0-12
23. 2008 DEIR/EIS, page 2.0-13
24. 2008 DEIR/EIS, page 2.0-41
25. 2008 EIR/EIS, page 2.0-42

Technical Appendix L, "University Community Plan Town Center"

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L.1 Executive Summary

The paper describes the planned use and function of the Town Center planned to be sited immediately south of UC Merced in the University Community Plan (UCP). Identification of this center will be used to differentiate it from any center that is proposed adjacent to western boundary of UC Merced in the Bellevue Community Plan.

The Town Center is described in these three planning documents:

- 2009 UCM LRDP
- 2004 University Community Plan
- 2008 EIR/EIS for UCM Phase 2020 and the University Community

While the size and location of the Town Center varies between the 2004 and 2008 planning documents, its function and purpose is has not. Section L.5.1 includes a list of key description statements taken from the documents assessed in this report.

A composite description is provided in Section L.5.2, combining the statements from the various planning documents, and highlighting the essential descriptors of the Town Center.

Unique traits of the Town Center are described in Section L.5.3, along with suggested consideration of compatible (not-competitive) uses in the Bellevue Community Plan.

L.2 Merced County University Community Plan (2004), Findings

L.2.1 Visioning

Per visioning statement of the Merced County UCP, "the fundamental organizing principle of the University Community is the establishment of a high density mixed-use Town Center abutted by and integrated with a number of distinct Residential Villages.[1-19] The concentration and intermixing of uses within the Town Center will promote pedestrian and transit use and establish it as the heart of the community. 1-19 Libraries, performing arts venues, art galleries, and other cultural facilities are located are planned to be located in the Town Center."[1-13]

"The Town Center Specific Plan shall be prepared in consultation with UC Merced to ensure the UCP's objectives for the interface and sharing of uses and continuity of streets, sidewalks/pedestrian paths, bikeways, infrastructure, open space amenities, and other elements are achieved." [1-156]

L.2.2 UCP Goals, Objectives, and Policies

Key goal, objective and policy statements are listed from the UCP:

LU 3.2 Policy

"……A business center shall be developed adjacent and relate to the Town Center and UC Merced campus……".[1-22]

LU 3.4 Policy

"Locate the highest development densities within and adjacent to the Town Center and primary transit corridors and stations to support community activity and transit use. Encourage the development of housing that is suitable and affordable for UC Merced students, faculty, and staff in proximity and adjacent to the Town Center." [1-25]

LU 4.4 Policy

"…The development allocations among the Town Center and each Residential Village shown in **Table 2** (see NOTE below) may vary to reflect the number of Villages to be developed or otherwise transferred among the five sub-areas provided that the cumulative amount of development in the Community is not exceeded, nor reduced to a

level that jeopardizes the ability to fund Community infrastructure, public services, and environmental mitigation……".[1-27]

NOTE: The data from **Table 2** (below), referenced in the paragraph above, is also presented in column 2 titled "2004 UCP" of this Technical Memorandum (section L.5.4).

TABLE 2 LAND USE CAPACITY

Land Use	Town Center	Residential Village 1	Residential Village 2	Residential Village 3	Residential Village 4	Total
Residential						
Single Family						
Acres	0	170	238	296	264	968
Units	0	1,225	1,714	2,134	1,895	6,968
Multi Family						
Acres	27	18	44	48	27	164
Units	648	430	1,050	1,146	648	3,922
Mixed Use						
Total Acres	20	0	0	0	0	20
Retail (sq. ft.)	305,000	0	0	0	0	305,000
Office (sq. ft.)	130,680	0	0	0	0	130,680
Housing Units	726	0	0	0	0	726
Retail						
Acres	5	3	2	12	3	25
Square Feet	61,000	50,000	50,000	200,000	50,000	411,000
Office						
Acres	16	2	2	7	2	29
Square Feet	593,320	20,000	20,000	120,000	20,000	776,320
Research & Development						
Acres	22	0	0	0	0	22
Square Feet	400,000	0	0	0	0	400,000
Schools						
Acres	0	10	20	50	30	110
Square Feet	0	1 (K–5)	2 (K–5)	1 (High) 1 (K–5)	1 (6–8) 1 (K–5)	7
Parks & Open Space						
Acres	0	66	42	74	74	256
Total Development						
Acres	90	269	348	487	400	1,594
Streets						
Acres	30	91	118	164	136	539
Total						
Acres	120	360	466	651	536	2,133

Note: The land use capacities may be transferred among planning subareas or otherwise varied to account for the number of Villages to be developed provided that the cumulative amount of residential, mixed use, retail, office, research and development uses within the University Community is not exceeded or reduced to impair financing of infrastructure, public services, and environmental litigation, and provided that such changes are consistent with other design and development policies contained in this Plan

LU Objective 6.0

"To establish a business center that provides opportunities to attract and incubate new businesses that benefit from the presence of the intellectual capital and research of UC Merced, is integrated with the Community Town Center and Campus Core, and provides job opportunities for local residents." [1-37]

Economic Development Objective 2.0

"Community identity will be established through creation of a town center within the University Community that physically links the Campus to the Community. Creating a vibrant town center requires that it be active and lively into the evening hours. Cafes, bookstores, and restaurants with extended hours can be attracted to the town center to draw students and professionals alike and offer a welcome setting for studying and socializing if retail, service, and entertainment businesses are concentrated in one village center near the edge of the campus in the early phases of development. High density residential can also contribute to the success of the town center, providing customers within walking distance." [1-59]

Cultural Facilities & Public Use Policies

PLC 5.5

"Promote the development of cultural facilities in the Town Center, as the first priority locations, with possible facilities in the Residential Village Centers." [1-112]

PS 1.2

"Identify sites for police facility location(s) in subsequent Specific Plans for development in the University Community, based on need, phasing, and timing. The Town Center would be a priority candidate site." [1-113]

PHS 1.2

"Locate any health care facilities that are developed in the Community in the Town Center and, secondarily, in the Residential Village Centers to maximize access by local residents and interface with other public uses." [1-114]

PHS 2.2

"Locate social provider facilities in the Town Center and, secondarily, in the Residential Village Centers to maximize access by local residents and interface with other public facilities." [1-114]

Land Use Objective 5.0

"To develop the University Community Town Center as the symbolic and functional center of the University Community that is directly linked and shares uses with the University campus core and linked to surrounding Residential Villages." [1-29] NOTE: Land Use Policies LU 5.1 to LU 22 are provided in their entirely on the following four pages.

Note: LU 5.11: "Allow three development typologies in the Town Center: *(a)* mixed use structures that integrate housing with ground level retail, office, cultural, or other use; *(b)* independent commercial, office, and other non-residential use; and *(c)* independent housing. Each development type shall be integrated into a cohesive urban pattern, in accordance with other policies in this section. To the extent practical, these development typologies shall be grouped, emphasizing the concentration of mixed structures along primary pedestrian streets as depicted by the Illustrative Town Center Diagram (**Figure 7, 8, 9, 10 and 11**). Their precise location shall be established by a Specific Plan to be adopted by the County." [1-31]

LU 4.8

Extend infrastructure and related services and utilities to urbanizing areas within the University Community only following the adoption of an Infrastructure Master Plan and pursuant to its specification for such infrastructure and services. Such services and improvements shall be limited to the planned development area except where they are necessary to independently or jointly serve the University Community and UC Merced. *(Imp 2.4, 3.3, 4.13)*

LU 4.9

Establish an Urban Limit Line contiguous with the Community Plan boundary. This Urban Limit Line is intended to delineate the maximum extension of urban development and urban services. The Urban Limit Line may be modified by the Board of Supervisors through a revision of the UCP and subject to all applicable goals, objectives, and policies of the County General Plan. *(Imp 2.1)*

A COMMUNITY OF VITAL AND LIVABLE PLACES

THE TOWN CENTER IS THE HEART OF THE COMMUNITY

Objective

LU 5.0

To develop the University Community Town Center as the symbolic and functional center of the University Community that is directly linked and shares uses with the University campus core and linked to surrounding Residential Villages.

Policies

USES

LU 5.1

Require that a mix of uses be developed in the University Community Town Center that reinforce its role as the primary business and shared activity center for the community and campus. Representative uses may include community and campus-serving retail commercial, personal services, financial institutions, offices, entertainment, hotels/motels, civic, cultural (library, museum, etc.), food service/grocery stores, housing, and similar uses that are supportable in the marketplace. *(Imp 2.5)*

LU 5.2

Encourage the development of buildings and sites that contain a mix of uses, including the vertical integration of housing with retail, office, civic, or other uses. *(Imp 2.5)*

LU 5.3

Integrate public uses (e.g., day and senior care facilities, community meeting rooms, recreation facilities, libraries, police and fire facilities, health facilities, and so on) with other uses in the Town Center. *(Imp 2.5, 4.4–4.6, 4.8)*

LU 5.4

Collaborate with UC Merced to identify and promote the development of uses in or immediately adjacent to the Town Center that support and can be jointly used by the campus and community (e.g., conference facility, performance arts center, sports stadium, and recreation fields). *(Imp 2.5, 3.3)*

LU 5.5

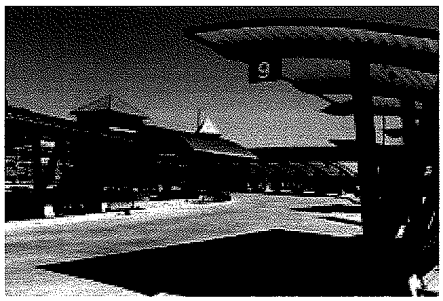
Promote the development of housing units for UC Merced students, faculty, and staff in the Town Center to facilitate access between the campus and community. *(Imp 1.4, 2.5, 3.3)*

LU 5.6

Encourage the development of senior housing within the Town Center. *(Imp 1.4, 2.5)*

LU 5.7

Develop a multi-modal transportation center that serves both the community and the campus at the earliest feasible date to lessen automobile dependence. Work with the UC in the siting and design of this facility to ensure its compatibility with adjoining uses and the transportation network and facilities. *(Imp 2.5, 4.1, 6.1–6.4)*



DENSITY/INTENSITY

LU 5.8

Develop the Town Center with the highest densities in the University Community to reinforce its role as the "heart" of the community and foster pedestrian and transit use, according to the following standards:

▪ Retail and office uses (free-standing)	Minimum floor area ratio (FAR) of 0.4 and maximum of 3.0 (one to six stories)
▪ Mixed use (housing/retail or office)	Minimum FAR of 1.5 and maximum 3.0, with a minimum FAR of 0.35 and maximum of 1.0 for retail or office components (three to six stories)
▪ Residential	An average range of 8 to 32 units per net acre (minimum height of two stories). Individual sites may be developed at lesser densities provided that the average density for the Town Center planning area is achieved.

LU 5.9

Increased densities and building heights may be permitted to reflect uses of special merit that further functional, economic, and design objectives for the Town Center, provided that they complement and are consistent with adjoining uses and the UC Merced campus. In no case shall densities below the defined minimums be permitted. *(Imp 2.5, 2.9)*

DESIGN AND DEVELOPMENT

LU 5.10

Integrate the Town Center's land uses into a cohesive urban pattern that provides the sense of a complete and identifiable place. Establish an urban form that ties together individual parcels and uses into a cohesive whole, addressing the location and massing of buildings, architecture, landscape, connective pedestrian paths and walkways, streets and transit, use of key landmarks, and similar elements. *(Imp 2.5, 2.9)*

Mixed-Use Center—Grocery store, housing above ground floor commercial. Narrow street and wide sidewalks

LU 5.11

Allow three development typologies in the Town Center: *(a)* mixed use structures that integrate housing with ground level retail, office, cultural, or other use; *(b)* independent commercial, office, and other non-residential use; and *(c)* independent housing. Each development type shall be integrated into a cohesive urban pattern, in accordance with other policies in this section. To the extent practical, these development typologies shall be grouped, emphasizing the concentration of mixed structures along primary pedestrian streets as depicted by the Illustrative Town Center Diagram (Figure 7, 8, 9, 10 and 11). Their precise location shall be established by a Specific Plan to be adopted by the County. *(Imp 2.5, 2.9)*

LU 5.12

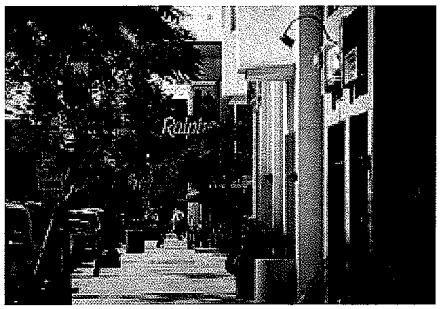
Work with UC Merced during the preparation of the Town Center Specific Plan to ensure the blending and continuity of uses, the street grid, and open spaces along the Town Center and campus core boundary. *(Imp 2.4, 2.5, 3.3)*

LU 5.13

Design sites and buildings that are constructed in the early phases of the Town Center's development to facilitate intensification and/or adaptive re-use to achieve the intended long-term scale and intensity of building and activity. For example, parking lots may be developed as interim uses that may be replaced by higher density buildings coupled with the development of shared use parking structures. *(Imp 2.5, 2.6)*

LU 5.14

Require that buildings be located to front onto public sidewalks and plazas forming a semi-continuous "building wall" (with parking located to the rear or in structures with ground level retail uses), that the ground floor of buildings be restricted to uses that have a high level of customer activity, and that buildings be designed to open onto the sidewalk/plaza and provoke visual interest (e.g., visual transparency, façade modulation/fenestration, etc.). *(Imp 2.5, 2.9)*



Building "wall" along sidewalk, transparent facades, pedestrian-oriented signage, streetscape amenities

LU 5.15

Incorporate a major public plaza/town square to serve as the centerpiece of community activity that shall be designed to accommodate events, celebrations, outdoor performances, community meetings, and similar functions. *(Imp 2.5, 2.7, 2.9)*

LU 5.16

Develop and design public streetscapes to enhance pedestrian activity including the integration of landscape, street furniture, signage, lighting, public art, distinctive paving materials, and other amenities. Local and/or campus artists should be involved in the design of streetscapes, in lieu of the exclusive use of traditional "catalogue" elements, to impart a distinctive character and enhance ownership by the community. *(Imp 2.5, 2.9, 3.5)*

Indoor/outdoor uses, streetscape amenities, wide sidewalks, narrow streets

LU 5.17

Accommodate plazas, small parks, and open spaces that provide viewshed opportunities of the campus and landmark buildings from the Town Center. *(Imp 2.5, 2.9)*

LU 5.18

Develop shared parking facilities in lieu of separate parking for each site/use in the Town Center, including possible parking facilities to serve both community and campus uses. *(Imp 1.5, 4.1)*

LU 5.19

Design internal local streets to emphasize pedestrian activity and slow traffic using such techniques as appropriate width, angled parking, traffic circles, landscaped "bulb outs," alleys, and comparable techniques. A standard of a minimum of 15 feet shall be established as the minimum width of sidewalks, which may be modified to reflect specific planned uses and urban form within the Town Center, provided that the intention for functional pedestrian sidewalks is achieved. *(Imp 2.5, 2.9)*

LU 5.20

Promote the use of high quality and distinctive architecture that avoids the use of clichéd styles and idioms, is reflective of adjoining campus buildings, and considers the region's history, landscape, and materials. *(Imp 2.5, 2.9)*

LU 5.21

Encourage the development of individual buildings that serve as landmarks for the Town Center that may be differentiated by their scale, architectural design, or use of special design elements. *(Imp 2.5, 2.9)*

LU 5.22

Design structures that integrate housing with commercial, office, and other uses to protect residents from adverse impacts of the non-residential use such as noise, odors, vibration, and lighting. Parking and access to the different uses should be separated and secured. Housing units should be designed to maximize their daylighting and air circulation. *(Imp 2.5, 2.6, 2.9)*

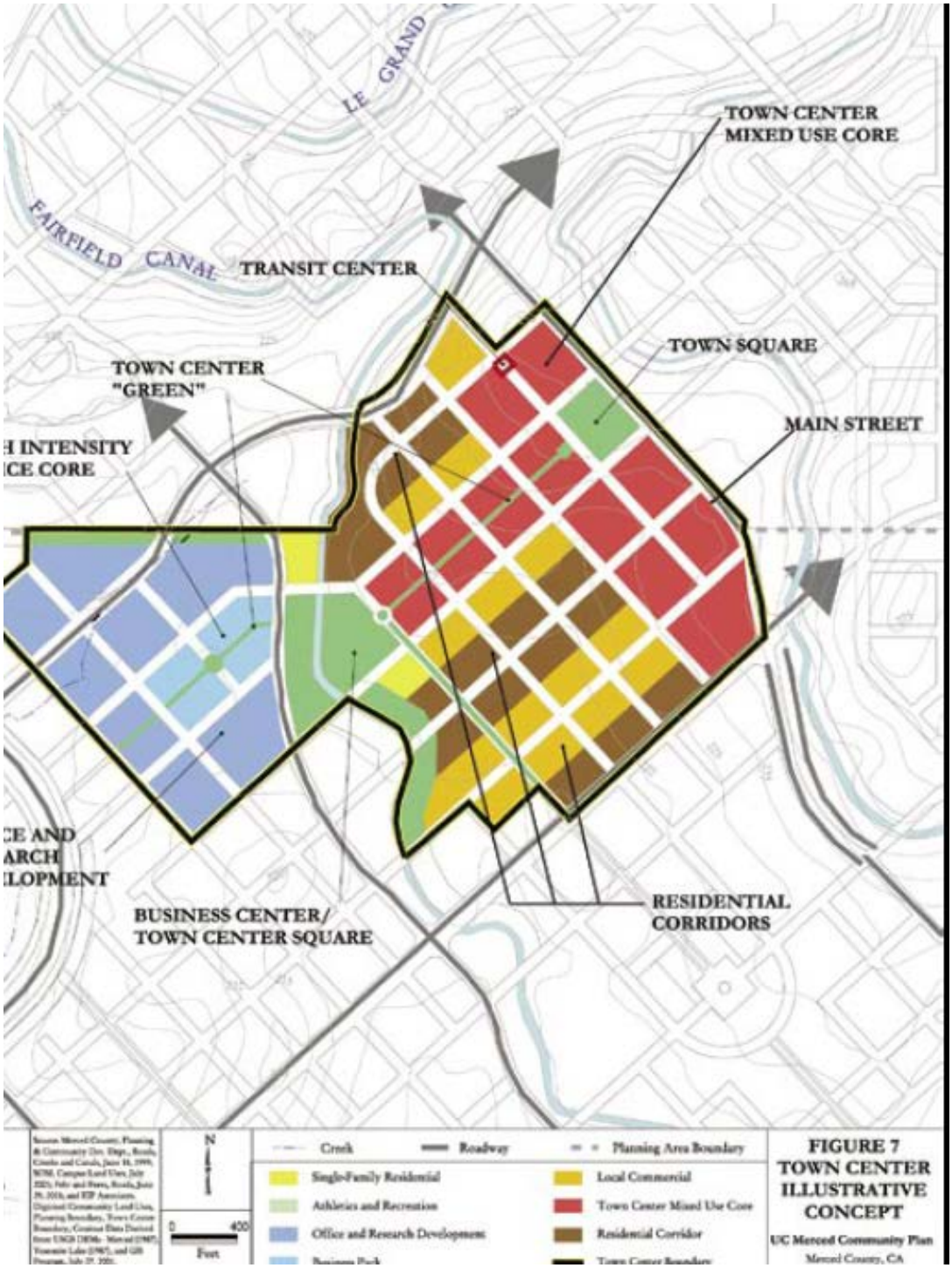
THE BUSINESS CENTER IS THE FOCAL POINT OF INNOVATION AND ECONOMIC ACTIVITY

Objective

LU 6.0

To establish a business center that provides opportunities to attract and incubate new businesses that benefit from the presence of the intellectual capital and research of UC Merced, is integrated with the Community Town Center and Campus Core, and provides job opportunities for local residents.

University Community Plan "Town Center/ Business Center"



L.3 *UC Merced Tomorrow*, Long Range Development Plan UC Merced (2009) Findings

L.3.1 Overview

Subsequent to the adoption of the 2004 Merced County UCP, the UC Merced Campus shifted south into lands originally planned for the UCP, and along with it, the planned location of the Town Center. As with the 2004 UCP, the Town Center is still placed immediately adjacent along the southern edge of UC Merced. The "Communities/Land Use Policies" COM_3 policy is a good summary of the relationship between UC Merced and the Town Center in the UCP, and states: "Integrate campus land use patterns, transportation and circulation systems, and open space systems with those of the adjoining community, particularly in the area of the Town Center." [2-55] Three other statements in the LRDMP mention the UCP Town Center:

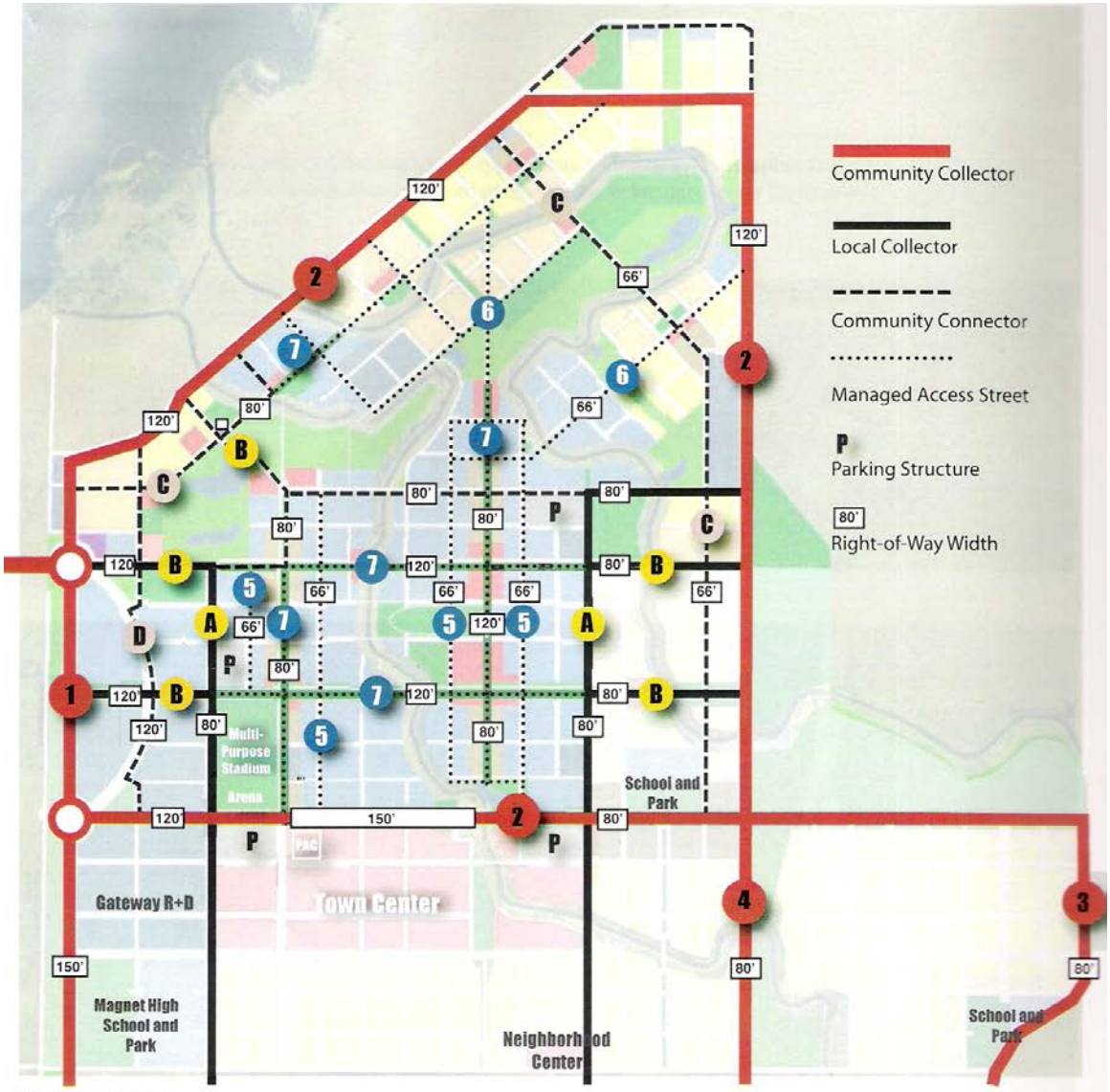
L.3.2 Key Statements

COM-9: "Locate uses that will ***attract community participation***, such as performance, arts and spectator sports, near or adjacent to the Town Center to assure ease of access for the Merced community, and coordinate with the community in support of facilities that may be of joint use, such as conference centers." [2-55]

"Main Street 2.0 is a mixed-use street featuring student housing above campus functions. It links North Campus and Central Campus to the University Community's Town Center. At the north are student union and student affairs buildings, and on the south is the sports complex, and the west end of the Town and Gown District." [2-72]

MOB-12: "Provide high-frequency, safe and convenient ***transit services*** that seamlessly connect major activity centers on campus and in the neighboring University Community. Primary transit destinations would include the campus core, the Town Center, the Gateway District, outlying commuter parking facilities, and key locations within on-campus and off-campus housing areas. Each building in the campus core should be within a 5 minute walk of a transit stop." [2-97]

L.3.3 UCM Circulation



UC Merced LRDP

Circulation: Vehicular Access Right of Ways

Community Collector

1. Parkway (Regional Facility)
2. Campus Loop Drive
   2 lanes with turn lanes (black)
   4 lanes with turn lanes (red)
3. Community Loop Drive
   2 lanes with turn lanes
4. Community Central Drive
   4 lanes with turn lanes

Local Collector

A. Campus Core Edge Access
   2 lanes with turn lanes
B. Campus Core Access
   2 lanes with turn lanesc

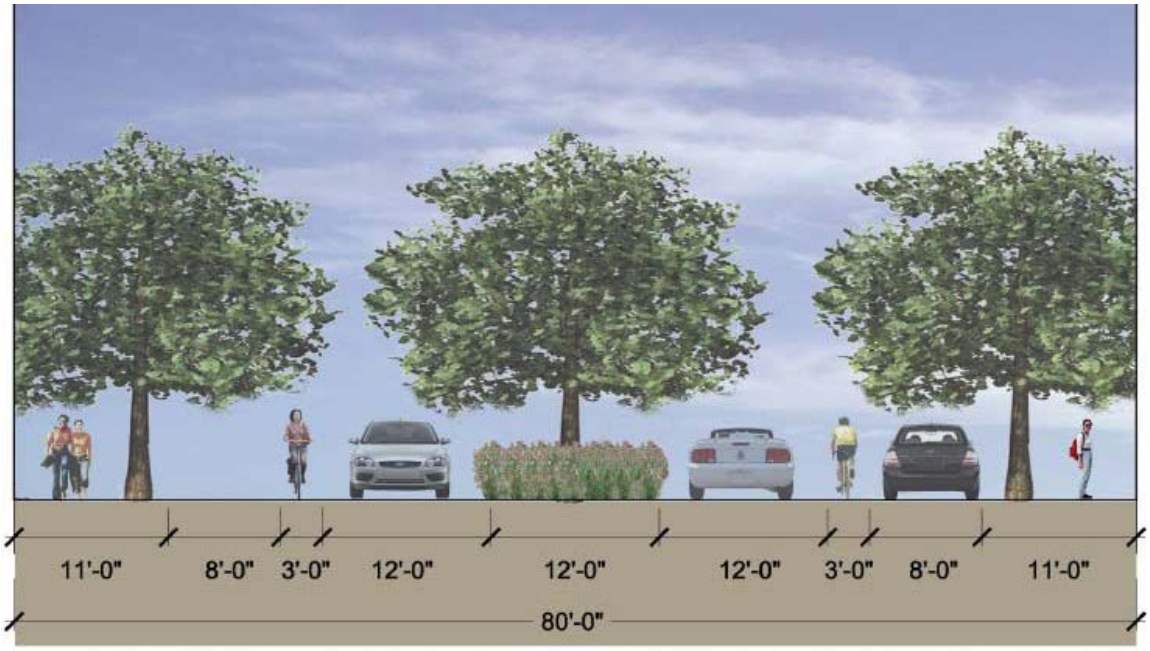
Community Connector

C. Neighborhood Access
   2 lanes
D. Gateway Access,
   2 lanes with turn lanes

Managed Access Street

5. Mixed-use Service Access
   2 lanes
6. Neighborhood Access
   2 lanes
7. Pedestrian Mall
   2 lanes

Community Collector (Town and Gown District)



LOCAL COLLECTOR A+B - CAMPUS CORE EDGE ACCESS + CAMPUS CORE ACCESS

L.4 UC Merced and University Community Project Draft EIS/EIR (2008) Findings

L.4.1 Project Description

The *project description* included in the 2008 EIS/EIS for the UC Merced and University Community Project, address the "Town Center" and adjacent "Gateway District," as follows:

Town Center

"The UCP, as previously adopted, proposed the development of a 120-acre mixed-use Town Center in the northernmost portion of the University Community area as a transition into the campus. In the view of the University, the land use plan for Community North continues and advances this concept. A Town Center would be built on about 120 acres in the north-central portion of Community North, directly adjacent to and south of the Academic Core of the campus. This Town Center would include commercial office, general commercial, mixed-use commercial, mixed-use residential, medium-density residential space, entertainment venues, parks, performing arts facilities, and parking (both distributed and structured). Approximately 862,500 square feet of commercial and office space and about 3,270 parking spaces in lots and parking structures are planned for the Town Center. The development of buildings and sites with a mix of uses, such as the vertical integration of housing with retail, office, or other uses would be encouraged. Residential development in the Town Center would consist of 1,418 units in a combination of single-family townhouse/rowhouse units, multi-family units located in mixed-use buildings with emphasis on occupancy by the campus-related uses and residents." [3-2.0-42]

Gateway District

"The UCP, as previously adopted, included 22 acres of land for the development of 400,000 square feet of research and development (R&D) space. The revised land use plan for Community North provides about 100 acres in the northwestern portion of Community North for the development of the Gateway District, which would focus on R&D and would be adjacent to similar R&D land uses on the campus. This area would be developed with approximately 2.3 million square feet of building space that would house research laboratories and industrial R&D." [3-2.0-43]

University Community Town Center

"The Town Center district would be located in Community North, and would serve as the "downtown" for the campus and the community. This district would include mixed-

use commercial and residential activities, cultural facilities, and parking. The Town Center Commercial Mixed Use (TC-1), Residential Mixed-Use (TC-2), and Residential Townhouse/Rowhouse (TC-3) blocks are proposed for this District." [3- 2.0-49]

L.4.2 Table of Major Land Uses

Along with the change in acreage to the Campus and the University Community, the EIR/EIS project description included changes in land use; these changes are described in Table 2.0-6 below.

Table 2.0-6
Major Land Uses in the 2009 Proposed University Community

Land Use	Community North		Community South	Total
	Town Center [6]	Residential Neighborhoods	Villages	
Residential				
Single Family				
Acres	45	330	560	935
Units	1,418[1]	3,356[2]	4,029	8,803
Multi Family				
Acres	4	10	75	89
Units		480	1,794	2,274
Mixed Use				
Total Acres	15			15
Retail (sf)	183,000[3]			183,000
Office (sf)	313,600[4]			313,600
Housing Units	540			540
Retail				
Acres	8	6	15	29
Square Feet	130,700	78,400	250,000	459,100
Office				
Acres	5		9	14
Square Feet	292,700		140,000	432,700
Research and Development				
Acres	71			71
Square Feet	2,308,300			2,308,300
Schools				
Acres		43	80	123
Parks and Open Space				
Acres	5[5]	76	148	229
Shared Parking				
Acres	9			9

L.5 Technical Memorandum Findings

L.5.1 Key Statements from Applicable Documents

While the size and location of the Town Center and land uses vary between the 2004 and 2008 planning documents (see table in Section L.5.4), its function and purpose has not, and is described in the following key statements from the documents assessed in this report.

Merced County University Community Plan, 2004

- Require that a mix of uses be developed in the University Community Town Center that reinforce its role as the primary business and shared activity center for the community and campus. Representative uses may include community and campus-serving retail commercial, personal services, financial institutions, offices, entertainment, hotels/motels, civic, cultural (library, museum, etc.), food service/grocery stores, housing.

- Collaborate with UC Merced to identify and promote the development of uses in or immediately adjacent to the Town Center that support and can be jointly used by the campus and community (e.g., conference facility, performance arts center, sports stadium, and recreation fields).

- A business center shall be developed adjacent and relate to the Town Center and UC Merced campus

- Encourage the development of buildings and sites that contain a mix of uses, including the vertical integration of housing with retail, office, civic, or other uses. The concentration and intermixing of uses within the Town Center will promote pedestrian and transit use and establish it as the heart of the community.

- Develop the Town Center with the highest densities in the University Community to reinforce its role as the "heart" of the community and foster pedestrian and transit use. Require that buildings be located to front onto public sidewalks and plazas forming a semi-continuous "building wall" (with parking located to the rear or in structures with ground level retail uses), that the ground floor of buildings be restricted to uses that have a high level of customer activity, and that buildings be designed to open onto the sidewalk/plaza and provoke visual interest (e.g., visual transparency, façade modulation/fenestration, etc.).

UC Merced Tomorrow, Long Range Development Plan UC Merced, 2009

- Integrate campus land use patterns, transportation and circulation systems, and open space systems with those of the adjoining community, particularly in the area of the Town Center.

- Locate uses that will ***attract community participation***, such as performance, arts and spectator sports, near or adjacent to the Town Center to assure ease of access for the Merced community, and coordinate with the community in support of facilities that may be of joint use, such as conference centers.

UC Merced and University Community Project Draft EIS/EIR, 2008

- A Town Center would be built on about 120 acres in the north-central portion of Community North, directly adjacent to and south of the Academic Core of the campus. This Town Center would include commercial office, general commercial, mixed-use commercial, mixed-use residential, medium-density residential space, entertainment venues, parks, performing arts facilities, and parking (both distributed and structured).

- The development of buildings and sites with a mix of uses, such as the vertical integration of housing with retail, office, or other uses would be encouraged.

- The Town Center district would be located in Community North, and would serve as the "downtown" for the campus and the community. This district would include mixed-use commercial and residential activities, cultural facilities, and parking.

L.5.2 Essential Character of the Town Center

Based on the key statements above, City Staff has prepared a single description of the UCP Town Center:

The Town Center district would be located in Community North, and would serve as the "downtown" for the campus and the community. Integrate campus land use patterns, transportation and circulation systems, and open space systems with those of the adjoining community. The Town Center would be developed with the highest densities in the University Community to reinforce its role as the "heart" of the community.

The Town Center would include commercial office, general commercial, mixed-use commercial/retail, mixed-use residential, medium-density residential space, entertainment venues, parks, and parking (both distributed and structured). Representative uses may include community and campus-serving retail commercial, personal services, financial institutions, offices, entertainment, hotels/motels, civic, cultural (library, museum, etc.), food service/grocery stores, housing. Collaborate with UC Merced to identify and promote the development of uses in or immediately adjacent to the Town Center that support and can be jointly used by the campus and community (e.g., conference facility, performance arts center, sports stadium, and recreation fields). A business center shall be developed adjacent and relate to the Town Center and UC Merced campus

To foster pedestrian and transit use, in concert with high densities, Town Center buildings would be require to front onto public sidewalks and plazas forming a semi-continuous "building wall" (with parking located to the rear or in structures with ground level retail uses), that the ground floor of buildings be restricted to uses that have a high level of customer activity, and that buildings be designed to open onto the sidewalk/plaza and provoke visual interest (e.g., visual transparency, façade modulation/fenestration, etc.).

L.5.3 Unique Traits of the Town Center

Due to proximity and ability to craft a circulation and land use network that joins the campus with the future UCP Community, the Town Center would become the "downtown" for both the campus and the community, thereby, becoming a major center in the area. The project's "Town and Gown District" is knitted together by a right-of-way designed specifically for pedestrians, though vehicles can pass through safely.

The proximity and connectedness of the UCM campus and the University Community forms a fertile location that supports the growth of uses which and can be shared the campus and community (e.g., conference facility, performance arts center, sports stadium, and recreation fields). While not unique, the adjacency of the business center/research and development park compounds the size and strength of this center.

The Bellevue Community Plan lacks adjacency to the UC Merced academic core, and the associated vitality it could bring to a downtown setting. The campus parkway (extended) right-of-way and the "UCM Gateway District,' more of a district than a center, separates the campus from future development in the Bellevue Community Plan. Uses that supplement and support the Gateway District, and are less supportive of a downtown setting, should be considered to be placed along the eastern edge of the Bellevue Community Plan. While a center may be located here, the size and character need to be distinct from the Town Center in the UCP.

Technical Memorandum K describes the Gateway District is greater detail.

L.5.4 Changes in Town Center/Business Center Land Uses and Acres

Town Center/Business Center Land Use Types and Acres			
Land Uses	**2004 UCP**	**2008 EIS/EIR**	**Change**
Residential			
Single Family			
Acres	0	45	+45
Units	0	1418	+1,418
Multi Family			
Acres	27	4	-23
Units	648		-648
Mixed Use			
Total Acres	20	15	-5
Retail (sq. ft.)	305,000	183,000	-122,000
Office (sq. ft.)	130,680	313,600	+182,920
Housing Units	726	540	-186
Retail			
Acres	5	8	
Square Feet	61,000	130,700	+69,200
Office			
Acres	16	5	
Square Feet	593,320	292,700	-300,620
Research and Development			
Acres	22	71	+49
Square Feet	400,000	2,308,300	+1,908,300
Schools			
Acres	0	0	
Square Feet	0	0	
Parks and Open Space			
Acres	0	5	+5
Shared Parking			
Acres	0	9	+9
Total Development			
Acres	90	162	**+72**

The data in the **2008 EIS/EIR** column includes the "Gateway" Research and Development uses.

Bibliography of Appendix L

1. Merced County University Community Plan, 2004
2. UC Merced Tomorrow, Long Range Development Plan UC Merced, 2009
3. UC Merced and University Community Project Draft EIS/EIR, 2008

Technical Appendix M, "Plan Assessment Tool"

Table of Contents

M.1 Overview

M.2 BCP Goals and Objectives
M.2.1 Relationship of City Goals with Strategic Growth Council Objectives
M.2.2 BCP Strategies to Achieve Objectives

M.3 Indicators

M.4 Baseline

M.5 Quantified Projected Outcomes

M.1 Overview

As a guiding document, the BCP will be used by the community as a tool to attain long-range development goals, but whether or not the community actually attains these goals won't be revealed for several decades. Near-term development of the plan area presents opportunities to measure the direction and pace the community is making toward Plan goals, and with this knowledge, adjustments may be made so that long-term goals are more likely to be reached.

This process generally includes the identification of a starting point (baseline), an end-point (goals and objectives), and measurable aspects of development (indicators) that reflect attainment of goals and objectives. In summary, the process is the quantification of projected outcomes over the baseline using specific indicators.

Technical Memorandum M describes these components at a level of detail necessary for City Staff to be able to measure the direction and pace the community is making toward the goals of the BCP. The components of this assessment are:

- Goals and Objectives
- Indicators
- Baseline
- Projected Outcomes

M.2 BCP Goals and Objectives

M.2.1 Relationship of City Goals with Strategic Growth Council Objectives

The City's Planning Staff reviewed and identified current City policies and implementation actions from the *Merced Vision 2030 General Plan* that are highly applicable to the *Bellevue Community Plan* area. These local community-based policies and actions were then paired with applicable objectives of the Strategic Growth Council (SGC); note that the BCP does not address the SGC's objective to revitalize urban and community centers. Many existing City policies and actions apply to more than one SGC objective, and are so noted. The following objectives do not have a topic heading (see below); rather, their acronym is placed after the applicable policies and actions.

SGC Objectives	Acronym
Improve Air and Water Quality	AWQ
Promote Public Health	PH
Promote Equity	E

This manner of notation shows the interrelated nature of policies and actions, and identities those that play a multi-objective role. Below, topic headings in bold are objectives, while summarized City policies and actions are bullet points

Strengthen the Economy

- Develop Key Employment and Circulation Corridors
- Annex Job-Based Sites and Develop Plans to Provide Infrastructure
- Plan for Research and Development Parks
- Develop Design Principles for New Communities (especially near UC Merced) to Encourage Job-Generating Uses

Improve Infrastructure Systems

- Implement the City's Street Functional Circulation Plan
- Seek and Evaluate Collector Street Design Options (AWQ, PH, E)
- Protect Right-of Way for Future Users
- Work with the County and Caltrans to Implement Area Expressways
- Plan for a Transit Corridor to UC Merced (AWQ, PH, E)

- Provide Convenient Access to Transit (AWQ, PH, E)
- Plan for Utility Capacity and Extensions (PH, E)
- Determine Appropriate Sites for Future Fire Stations (PH, E)
- Develop Groundwater Recharge and Storage Facilities (AWQ, E)
- Coordinate Infrastructure Needs with UC Merced
- Plan for Telecommunications Infrastructure
- Provide Circulation-Related Connections between Downtown and UC Merced (AWQ, PH, E)

Promote Infill and Compact Development

- Limit Establishment and Growth of Rural Residential Centers (AWQ, PH
- Limit Expansion of City Utilities to only those areas within the Established Urban Boundary (E)
- Promote High Density Residential Sites to Maintain a Compact Urban Form (PH, E)
- Encourage Phasing of New Development (E)
- Promote Land Use Patterns and Site Designs that Support use of Public Transit (AWQ, PH, E)
- Take a Long Range view of how land and Site Planning can possibly affect Future Public Transit Options (AWQ)
- Limit Expansion of City Utilities outside its Incorporated Limits (E)

Promote Water Conservation

- Explore Range of Uses for Untreated Water
- Preserve and Enhance Surface Water System
- Explore Range of Uses for Untreated Water
- Design Growth Areas to Use Treated Wastewater
- Promote Water Conservation throughout the Planning Area

Reduce Automobile Use and Fuel Consumption

- Plan for a Mixture of Land Uses (PH, E)
- Encourage Pedestrian and Transit-Friendly Designs (AWQ, PH, E)
- Encourage Construction of Transit, Bicycling and Walking Features in Future Developments (AWQ, PH, E)
- Permit Transit-Friendly Projects (AWQ, PH, E)
- Avoid Negative Impacts to Function of Transit Corridors (AWQ, PH, E)

- Coordinate Bike Planning and Construction with UCM and Merced County (AWQ, PH, E)
- The Focus of New Development will be Mixed-use, Pedestrian and Transit-Friendly Communities (AWQ, PH, E)
- Develop Bikeways and Trails along Open Space Stream Corridors (AWQ, PH, E)
- Connect Bikeways within Greenways Connecting Parks and Schools (AWQ, PH, E)
- Plan for High and Medium-Density Housing near Transit Hubs and Commercial Centers (AWQ, PH, E)

Protect Natural Resources and Agricultural Land

- In General, Develop Non-Prime Agricultural Lands before Prime Agricultural Lands
- Identify Sensitive Habitat
- Avoid Sensitive Habitats unless otherwise Mitigated
- Create Open Space Corridors along Creeks and Other Appropriate Areas
- Support more Natural Flood Control Methods (AWQ, PH)
- Preserve Open Space Areas Which Are Necessary to Maintaining Public Health and Safety (PH)

Promote Energy Efficiency and Conservation

- Plant Street Trees in New Developments (PH, E)

Increase Housing Affordability

- Encourage High Density Housing (E)
- Designate Areas for Multi-family Development (E)

M.2.2 BCP Strategies to Achieve Objectives

1. Strengthen the Economy

Investigation of the area's potential to attract research-based companies and large corporations, as well as the appropriate amounts and mixes of commercial and residential uses was a key task of the BCP. The plan enables the siting of a diverse set of businesses, housing and employment that cater to the University population, as well as the City's anticipated general population growth.

2. Improve Infrastructure Systems

The BCP infrastructure guidelines expand and improve upon the area's current infrastructure. The Plan lays out goals and policies for accessible, efficient transportation systems; a solid waste program characterized by source reduction and modern recycling components; sustainable energy infrastructure; and integrated water-related infrastructure that addresses potable water, wastewater, and storm water concerns.

3. Promote Infill and Compact Development

The BCP establishes a general planning foundation upon which urban design guidelines that support the development of transit-oriented development can be implemented. In the core area of the plan along the planned transit-route, high density housing will mix with parks, offices, shops, services, and transit options to create a well-balanced, walkable community.

4. Promote Water Conservation

The BCP emphasizes multi-objective storm water infrastructure design, including construction of permeable surfaces and collection basins. In keeping with the goals of the Merced Integrated Regional Water Management Plan, use of potable water will be minimized through the innovative use of recycled wastewater and storm water.

5. Reduce Automobile Use and Fuel Consumption

The BCP includes a strategy to develop a successful transit-oriented development. A convenient and affordable transit system will connect riders to UC Merced, and various Merced destinations, Greyhound, and Amtrak. The addition of functional bikeways and supportive features such as bike racks and other amenities –will encourage cycling as a feasible and attractive mode of transportation. Bikeways will link to and expand the City's existing bicycle transportation network. Balancing the amounts of housing and jobs will lead to reduced number and length of trips, which will lessen air quality impacts and support mobility options that could improve physical health.

6. Protect Natural Resources and Agricultural Land

The BCP aims to preserve, protect, and/or mitigate the loss of resources, promote the long-term vitality of natural resources within the larger regional context. The BCP integrates natural resources into development, promoting the use of drought-tolerant vegetation for landscaping purposes, surface water features, and creating an interconnected network of open spaces and sensitive habitats. The BCP communicates the City's General Plan goal for compact growth and to create transit-oriented "Urban Villages." This design will establish a vibrant mixed-use area west of the UC, filling in a

gap between the City and UC Merced rather than sprawling into the more pristine wildlife habitats and agricultural lands east of campus.

7. Promote Energy Efficiency and Conservation

A conservation-oriented energy supply will be encouraged through building-related conservation techniques. The Plan will promote renewable energy sources such as solar panels and geothermal designs.

8. Increase Housing Affordability

The mixed-use Urban Village design planned for the BCP will be highly conducive to creating housing options for people with limited income. The project will allow the City to increase the supply and diversity of housing types and affordability. The end result will be affordable, high quality, and location-efficient housing.

9. Improve Air and Water Quality

The mixed-use zoning encouraged in the BCP, with a strategic blend of housing and business opportunities, will allow City residents to shorten their vehicle trips and be offered other viable mobility options (walking, bicycling or use of transit) The BCP can become a thoroughly walkable community, offering housing, services, recreation, and shopping options within walking distance of each other. "Complete Streets" design concepts will accommodate – and, just as importantly, attract -- pedestrians and bicyclists. Public transportation options and off-street bike paths will contribute to the area's layout. Bellevue Road balances multiple goals including access to adjacent property, gateway designs, and need to convey regional traffic efficiently.

10. Promote Public Health

The *Complete Streets* approach in the BCP will result in cleaner air, reducing the incidence of asthma for residents of the Bellevue Corridor. The BCP includes an interconnected network of natural open space, bikeways (both on-street and off-street) and recreational facilities, encouraging physical activity by walking and cycling. Balancing the amounts of housing and jobs will lead to reduced number and length of trips, which will lessen air quality impacts and support mobility options that could improve physical health.

11. Promote Equity

The BCP emphasizes economic growth through the creation of a desirable place to live, work and play, and through its jobs-based land use plan. Housing options will be diverse to fit budgets from all income levels. The BCP provides mobility options for people who are economically, socially, or physically disadvantaged.

M.3 Indicators

Indicators are used to create a bridge of understanding about whether or not objectives are being met. While they may not define the entirety of the objective or goal, indicators define measureable features of some aspect of it. For this reason, it is important to identify the best indicators, and those that have easily accessible data. To identify such indicators, City Staff contacted other Planning Departments that have prepared indicators for similar community plans, and received input from the Project Technical Advisory Committee.

Table M-1 shows which indicators align with the Plan objectives, and provides a qualitative outcome comparing the Bellevue Community Plan to the "business-as-usual" or baseline conditions.

Section M.3.2 provides a description and use of the indicators.

Table M-1: OBJECTIVES, INDICATORS AND OUTCOMES

Objectives	Indicators	Projected Outcomes
Strengthen the Economy	• Employment Rate	✓ Increase
Improve Infrastructure Systems	• Recycling Program Participation Rate • Ratio of utility connections to dwellings	✓ Increase ✓ Increase
Promote Infill and Compact Development	• Transit Ridership • Jobs/Housing Balance Ratio	✓ Increase ✓ Centered
Promote Water Conservation	• Percent of buildings and properties with water meters • Per capita water use • Use of surface water for urban use	✓ Increase ✓ Decrease ✓ Increase
Reduce Automobile Usage and Fuel Consumption	• Transit Ridership • Bicycle Rack Usage • Bicycle Registrations • Jobs/Housing Balance Ratio • Trips by Automobile Mode	✓ Increase ✓ Increase ✓ Increase ✓ Centered ✓ Decrease
Protect Natural Resources and Agricultural Lands	• Amount of open space per capita	✓ Increase
Promote Energy Efficiency and Conservation	• Residential Energy Consumption • Commercial Energy Consumption	✓ Decrease ✓ Decrease
Increase Housing Affordability	• Population able to afford rent or mortgage	✓ Increase
Improve Air and Water Quality	• Rate of coliform presence • Local air quality measurement	✓ Decrease ✓ Decrease
Promote Public Health	• Healthy Fitness Zone • Bicycle Registration • Incidence of Asthma Emergencies • Obesity Population Incidence	✓ Increase ✓ Increase ✓ Decrease ✓ Decrease
Promote Equity	• Transit Ridership • Population able to afford rent or mortgage • Employment Rates	✓ Increase ✓ Increase ✓ Increase ✓ Decrease

M.4 Baseline

The baseline measurements of the Plan's indicators are listed in Table M-2 below. They are presented form a *business-as-usual* perspective, implying an intent to change as may be caused by the strategies summarized in Section M.2.2..

Table M-2: BUSINESS AS USUAL (BAU) MEASUREMENTS	
Indicators	**Baseline BAU Measurement**
Employment Rate	
Recycling Program Participation Rate	
Ratio of utility connections to dwellings	
Transit Ridership	
Jobs/Housing Balance Ratio	
Percent of buildings and properties with water meters	
Per capita water use	
Use of surface water for urban use	
Bicycle Rack Usage	
Bicycle Registrations	
Trips by Automobile Mode	
Amount of open space per capita	
Residential Energy Consumption	
Commercial Energy Consumption	
Population able to afford rent or mortgage	
Rate of coliform presence	
Local air quality measurement	
Healthy Fitness Zone	
Incidence of Asthma Emergencies	
Obesity Population Incidence	

M.5 Quantified Projected Outcomes

Table M-3 identifies a quantified target or projected outcome over the baseline for each indicator. For example, the employment rate in the BCP is projected to increase by 10% over the baseline measurement in Table M-2.

Table M-3: Quantified Indicator Target

Indicators	Projected Outcomes over the Baseline
Employment Rate	10% increase
Recycling Program Participation Rate	10% increase
Ratio of utility connections to dwellings	Increase to 100% of sites
Transit Ridership	25% increase
Jobs/Housing Balance Ratio	25% more balanced
Percent of buildings and properties with water meters	Increase to 100% of sites
Per capita water use	25% decrease
Use of surface water for urban use	10% increase
Bicycle Rack Usage	Increase to 50% of supply
Bicycle Registrations	Increase to 20% of population
Trips by Automobile Mode	Decrease by 15%
Amount of open space per capita	Increase by 10%
Residential Energy Consumption	Decreased use rate by 15%
Commercial Energy Consumption	Decreased use rate by 15%
Population able to afford rent or mortgage	Increase by 25%
Rate of coliform presence	Decrease by 25%
Local air quality measurement	Levels less by 10%
Healthy Fitness Zone	Increase by 10%
Incidence of Asthma Emergencies	Decrease by 5%
Obesity Population Incidence	Decrease to 25% of Population