

Preliminary Off-Campus Traffic Analysis

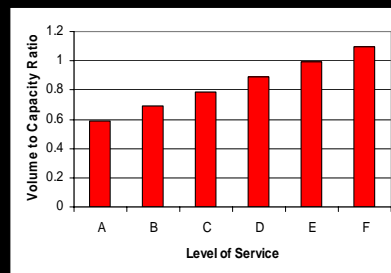
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Volume to Capacity (V/C) Ratio

- Measure of traffic volume against a roadway's capacity
- Measures conditions on a length of road instead of intersections
- As V/C ratio approaches 1.0 (traffic volumes have reached road's capacity):
 - Slower speeds
 - Longer delays
 - Longer queues at intersections
- As V/C ratio exceeds 1.0:
 - Peak hour spreads into longer period



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Measuring Traffic Impacts

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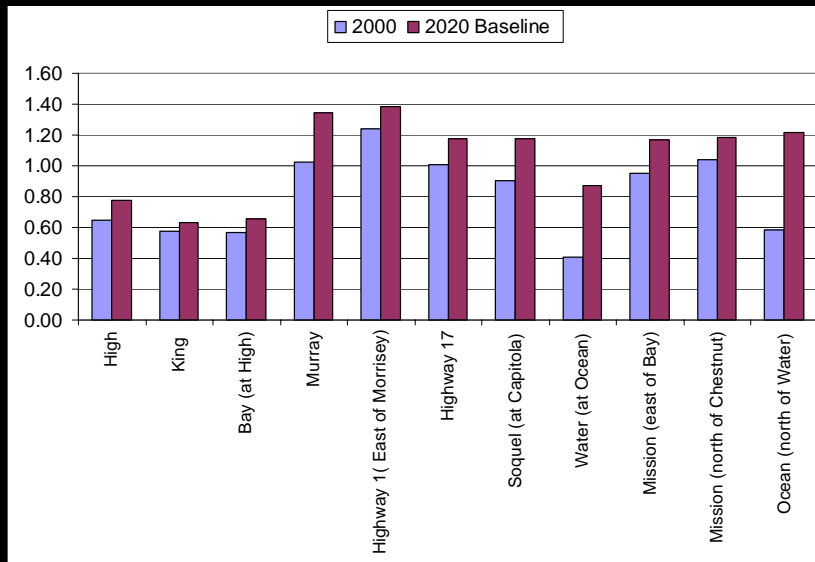
AMBAG Travel Demand Forecasting Model

- Developed by the Association of Monterey Bay Area Governments
- Regional forecasting model covering Santa Cruz, Monterey, and San Benito Counties
- Predicts AM Peak Hour, PM Peak Hour, and Daily traffic volumes on major streets and highways
- Forecasts traffic to year 2020
- Based on population, housing, and employment projections by Traffic Analysis Zone (TAZ)
- Model validated in 1997 (shown to accurately predict 1997 traffic conditions)
- Same model as used for the Santa Cruz Master Transportation Study (MTS)

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Overview of AMBAG Travel Demand Forecasting Model

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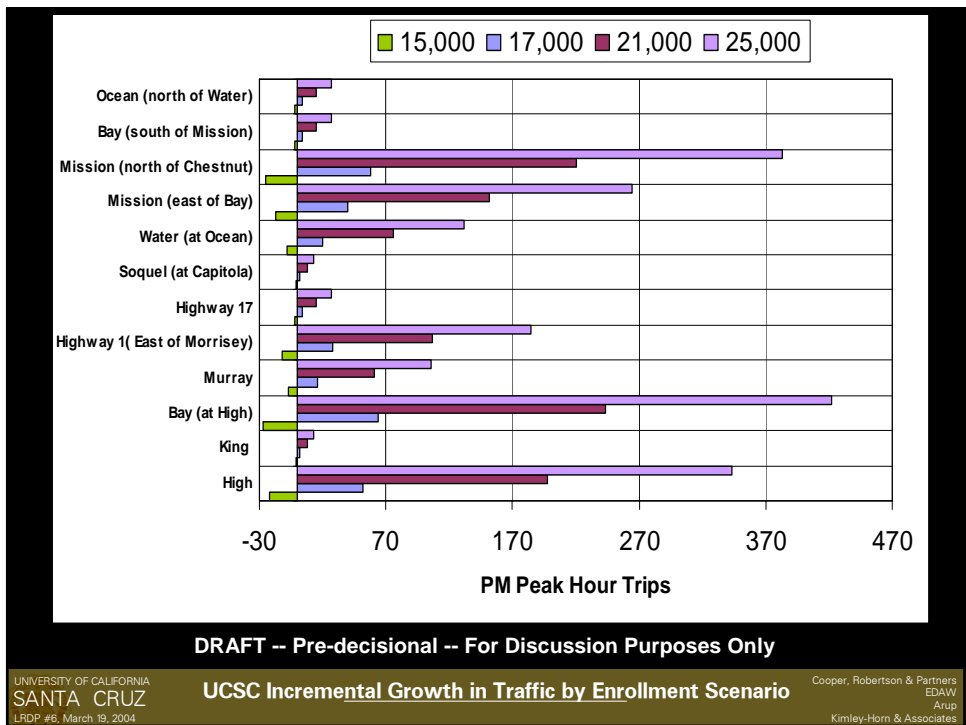
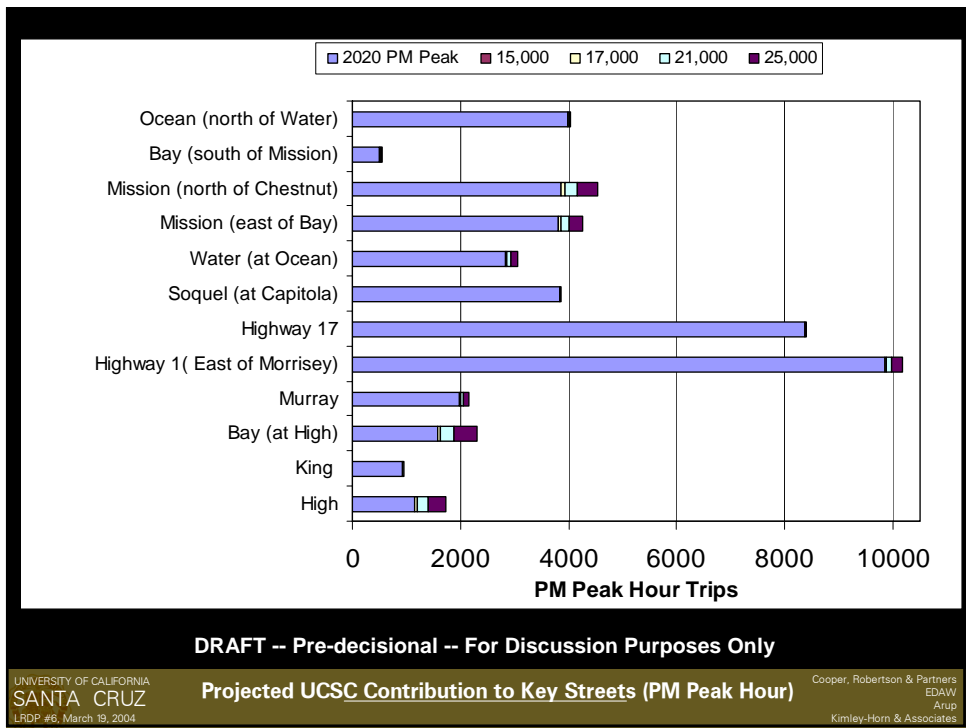


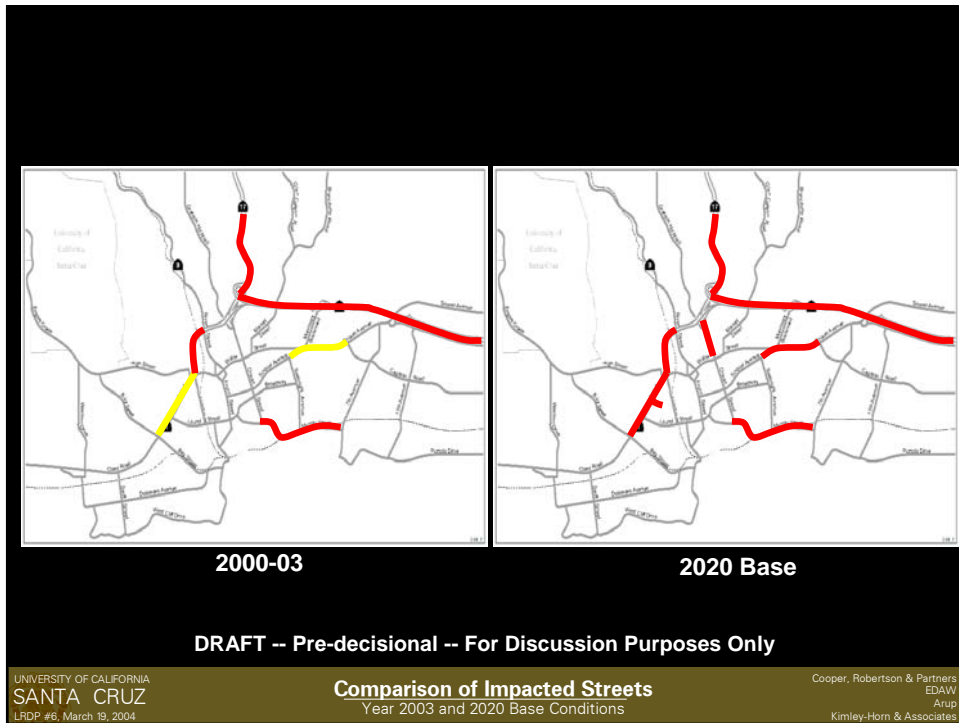
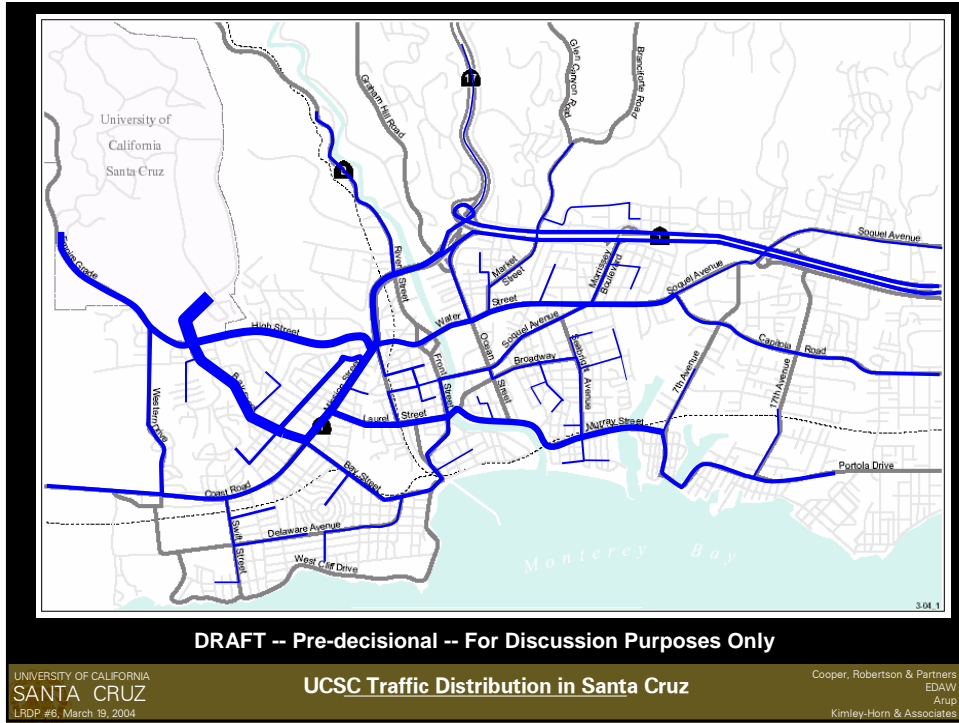
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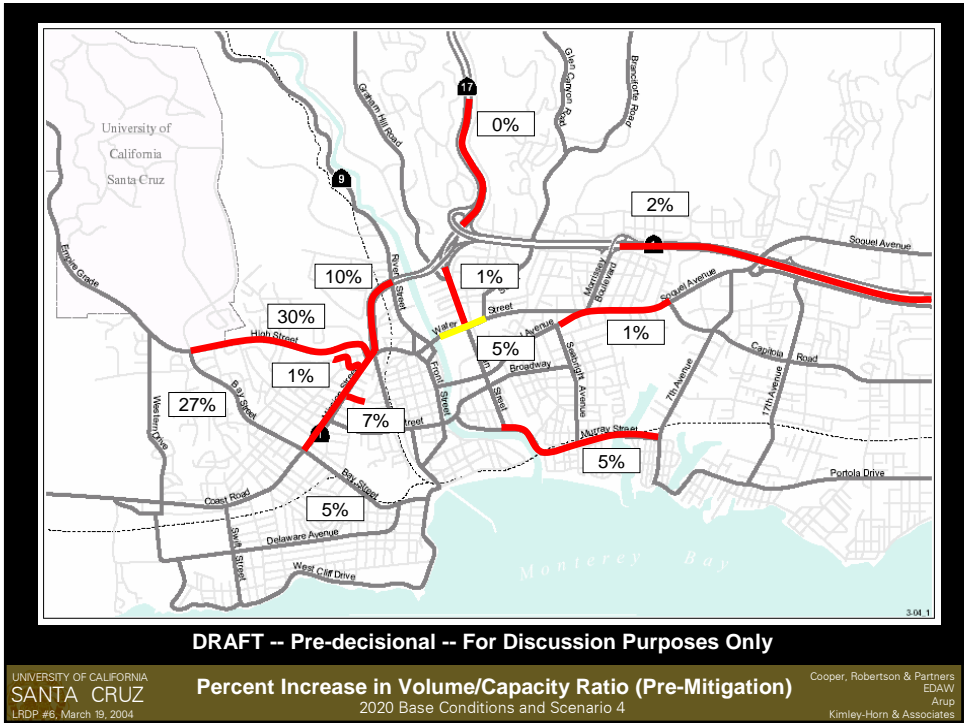
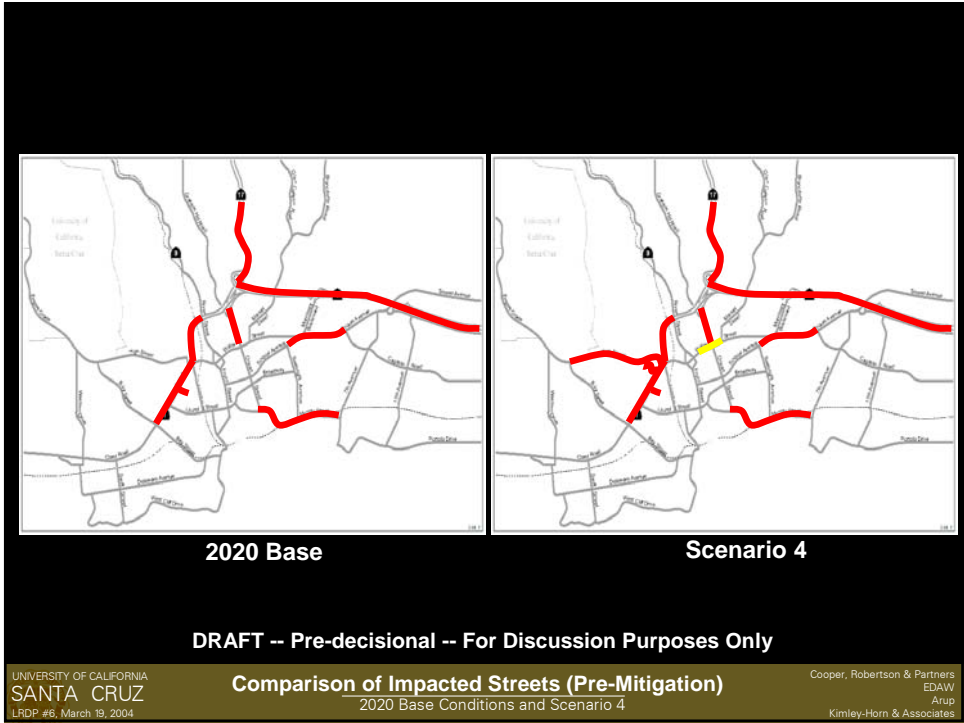
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Comparison of Volume to Capacity Ratios on Key Streets Year 2000 and 2020 Baseline

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Constraints to Improving Off-Campus Street Capacity

- Limited capacity on existing streets and intersections
- Limited ability to widen streets
- Campus access restricted by two-lane streets (Bay, High, King, Western)
- Community concern about neighborhood impacts
- Transit system serving campus nearing capacity and offers no travel time advantage

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Potential Mitigation Measures
Constraints to Mitigation

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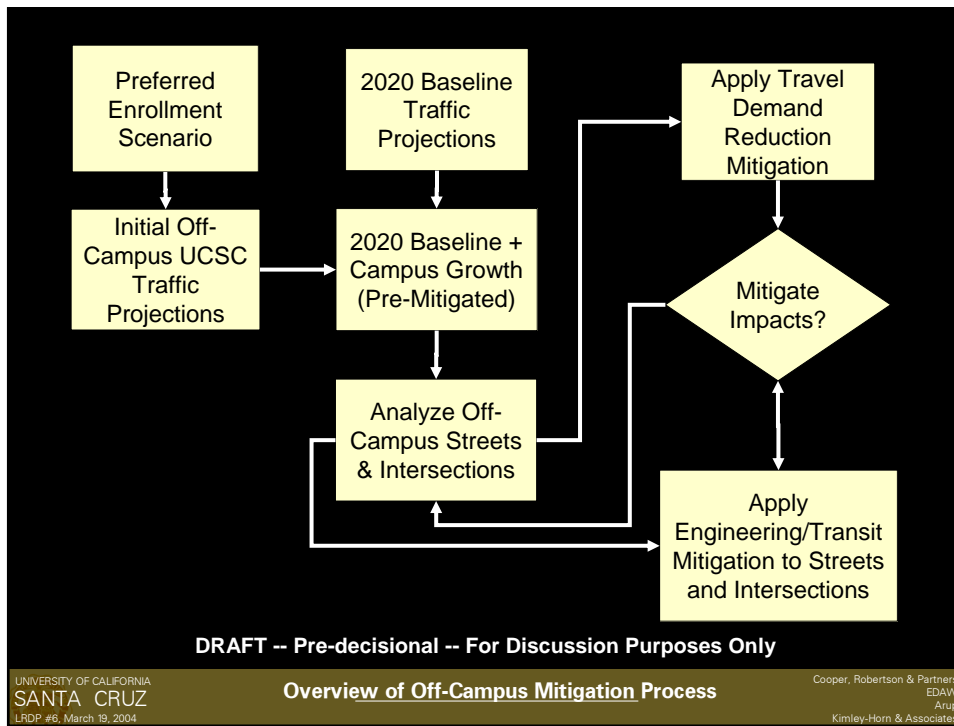
	SCENARIO			
	15,000	17,000	21,000	25,000
Enrollment	15,000	17,000	21,000	25,000
Total PM Peak Hour Traffic	2,115	2,400	2,960	3,520
Growth in PM Peak Hour Volume Over 2003 Conditions	-85	200	760	1,320

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Growth in UCSC Traffic (Pre-Mitigation)

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Reduce Travel Demand To/From Campus

SCENARIO			
15,000	17,000	21,000	25,000
	Measures for 15,000 students plus:	Measures for 17,000 students plus:	Measures for 21,000 students plus:
Maintain current mode share through existing TDM programs	Develop strong TDM promotion campaign	Decrease existing drive alone mode share to 35%	Provide Eastside remote park and ride facility
	Provide Westside remote park and ride facility with transit service	Modify class scheduling to shift peak campus access to off peak times	Shift staff to off-campus locations on Westside
	Develop special event parking and traffic management plans	Expand vanpool fleet	Shift staff to off-campus locations on Eastside, and/or implement a 10 hour/4 day workweek for some staff
		Introduce car-sharing program on campus	Increase on-campus student housing beyond 50%
		Increase retail and service uses on campus	
Potential Trip Reduction:	1% to 5%	4% to 12%	10% to 20%

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Potential Mitigation Measures (Off-Campus)
Reduce Travel Demand to/from Campus

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Improve and Expand Transit System

SCENARIO			
15,000	17,000	21,000	25,000
	Measures for 15,000 students plus:	Measures for 17,000 students plus:	Measures for 21,000 students plus:
Implement UrbiTran Study short term transit recommendations	Improve special event transit service	Provide direct express Eastside to campus bus service bypassing downtown transit center	Increase frequency and capacity of existing bus routes serving campus Implement UrbiTran Study long term recommendations
	Increase bike capacity on regional buses	Implement transit pre-emption signal systems and queue jump lanes on major corridors	Implementation of Bus Rapid Transit system on Santa Cruz arterial streets
Potential Trip Reduction:	1% to 2%	2% to 4%	4% to 8%

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Potential Mitigation Measures (Off-Campus)
Improve and Expand Transit System

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Improve Streets and Intersection with Engineering Solutions

SCENARIO			
15,000	17,000	21,000	25,000
	Measures for 15,000 students plus:	Measures for 17,000 students plus:	Measures for 21,000 students plus:
Improve traffic conditions at Highland/Mission and Storey/King/Mission	Install traffic signals at critical unsignalized intersections (e.g. Empire Grade/Western)	Traffic operations improvements at Mission/Chestnut/Hwy 1	Implement traffic-adaptive signal systems on critical arterial streets
Improve Bay/Escalona intersection		Improve intersections on Water Street	Implement access management measures on Mission Street
		Convert King Street to a Bicycle Boulevard	Improve intersections on Soquel Ave. and Murray Dr.
		Add bike lanes to Bay Street south of Mission	Add bike lanes to Mission Street

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Potential Mitigation Measures (Off-Campus)
Improve Streets and Intersections with Engineering Solutions

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New and Existing Roadways

SCENARIO			
15,000	17,000	21,000	25,000
	Measures for 15,000 students plus:	Measures for 17,000 students plus:	Measures for 21,000 students plus:
Improve way-finding system, particularly for visitors and special events	Extend Heller Drive to serve new facilities in North Campus	Extend Chinguapin Road and Heller Drive to create new North Campus loop road	Provide new western access from Empire Grade Road
		Construct Meyer Drive extension to Hagar Drive	
		Consider closing McLaughlin Drive to through vehicles (bus, service and parking access only)	

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Potential Mitigation Measures (On-Campus)
New and Existing Roadways

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Improvements to Bicycle and Pedestrian System

SCENARIO			
15,000	17,000	21,000	25,000
	Measures for 15,000 students plus:	Measures for 17,000 students plus:	Measures for 21,000 students plus:
Develop bike management plan for natural reserve areas (e.g. blockades)	Begin implementation of pedestrian spine connecting engineering to Visual Arts	Continue implementation of pedestrian spine connecting engineering to Visual Arts	Complete implementation of pedestrian spine connecting engineering to Visual Arts
Provide additional pedestrian bridges over ravines	Explore way of expanding Class II bike lanes (e.g. narrower lanes, road widening)		
	Explore grade-separating key pedestrian crossings of McLaughlin		

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Potential Mitigation Measures (On-Campus)
Improvements to the Pedestrian and Bicycle System

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Improvements to Transit Operations

SCENARIO			
15,000	17,000	21,000	25,000
	Measures for 15,000 students plus:	Measures for 17,000 students plus:	Measures for 21,000 students plus:
Implement UrbiTran Study Short Term Recommendations	Implement UrbiTran Study Long Term Recommendations as needed	Implement UrbiTran Study Long Term Recommendations as needed	Implement UrbiTran Study Long Term Recommendations as needed
Explore opportunities to provide queue jump lanes at intersections on-campus, possibly in conjunction with pre-emptive signals			

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Potential Mitigation Measures (On-Campus)
Improvements to Transit Operations

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Parking Management

15,000 Scenario	17,000 Scenario – same as for 15,000 students plus:	21,000 Scenario – same as for 17,000 students plus:	25,000 Scenario – same as for 21,000 students plus:
Expand hours of parking enforcement	Provide strategically placed visitor parking facilities	Implement parking wayfinding system	Implement parking guidance system with dynamic message signs
Increase use of zoned parking permits, linked to permit pricing	Consider off-campus "storage" parking facilities for on-campus residents who use vehicles infrequently	Explore "Pay at Exit" use-based parking fees instead of monthly permit fee to encourage off-peak travel	
Implement parking management programs at off-campus locations	Consolidate campus meeting facilities in high-access areas of campus or establish secondary off-campus meeting facilities	Explore "transponder-based" parking fees linked to travel at peak times, a form of congestion pricing	
	Revise class schedules or co-locate linked classes to reduce cross campus crush between classes		
	Introduce car-sharing program on campus		

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Potential Mitigation Measures (On-Campus)
Parking Management

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New Parking Supply

SCENARIO			
15,000	17,000	21,000	25,000
	Measures for 15,000 students plus:	Measures for 17,000 students plus:	Measures for 21,000 students plus:
Construct East Remote Deck (1,000 spaces)	Construct Core South Structure (1,000 spaces)	Construct Core East structure (1,000 spaces)	Construct Core North structure (500 spaces)
			Construct Far North parking for student housing (1,100 spaces)
New Spaces (Cumulative)			
1,000	2,000	3,000	4,600

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New Parking Supply

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