

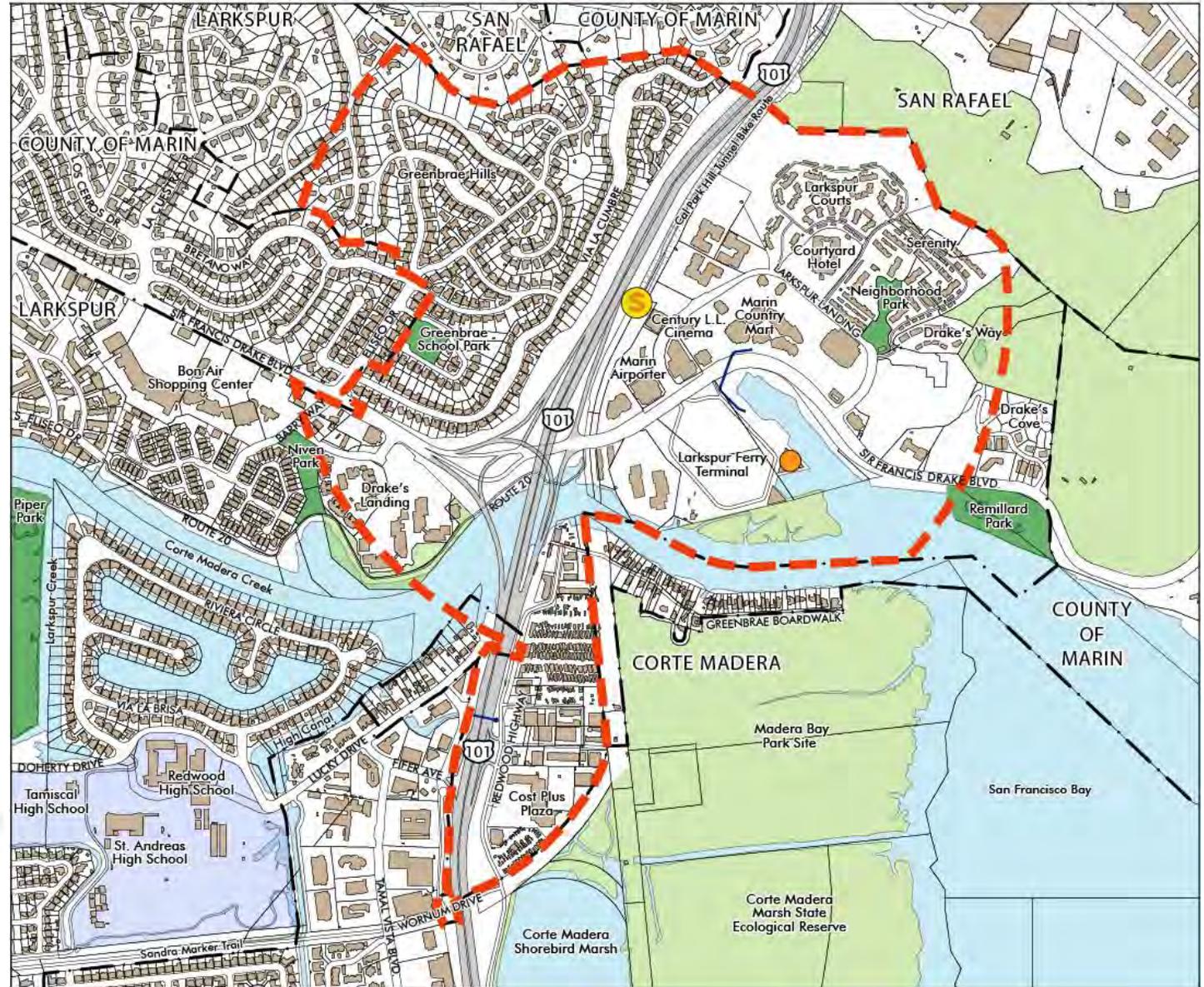
LARKSPUR SMART STATION AREA PLAN



Citizen Advisory Committee Meeting

May 20, 2013

LARKSPUR STATION AREA PLAN STUDY AREA



- LEGEND**
- STUDY AREA BOUNDARY
 - CITY BOUNDARY
 - SMART STATION LOCATION
 - LARKSPUR FERRY TERMINAL
 - WATER
 - PARKS
 - OPEN SPACE
 - SCHOOLS

AGENDA

- Methodology
- Project Travel Characteristics
- Impacts and Mitigation
 - Traffic conditions
 - Pedestrians and bicycles
 - Public transit
 - Parking

RELEVANT POLICIES AND PLANS

- Larkspur General Plan
 - Quality of Life Policy C – Sir Francis Drake Boulevard Traffic
 - Vehicle Levels of Service Standards
 - Pedestrian, bicyclist, and transit accommodations
- Marin County Congestion Management Program
 - US-101
 - Sir Francis Drake Boulevard
- Other
 - Corte Madera and San Rafael General Plans
 - Marin County General Plan
 - Pedestrian and Bicycle Plans

KEY CONCEPTS: INTERSECTION LEVEL OF SERVICE

TABLE B-1 - SIGNALIZED INTERSECTION LEVEL OF SERVICE THRESHOLDS			
LOS	Average Control Delay (seconds/vehicle)	Description	
A	≤ 10	Operations with very low delay occurring with favorable progression and/or short cycle length.	
B	10 – 20	Operations with low delay occurring with good progression and/or short cycle lengths.	
C	20 - 35	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	
D	35 – 55	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicle stop and individual cycle failures are noticeable.	
E	55 - 80	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	
F	> 80	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	

Source: *Highway Capacity Manual (HCM)*, Transportation Research Board, 2000, Fehr & Peers, 2010.

KEY CONCEPTS: FREEWAY LEVEL OF SERVICE

Level of Service	Description	Upper Volume/Capacity Threshold
A	Little or no congestion	0.60
B	Little or no congestion	0.70
C	Small amount of traffic congestion	0.80
D	Average traffic congestion	0.90
E	High traffic congestion	1.00
F	Very high traffic congestion	>1.00

Source: Highway Capacity Manual, Transportation Research Board, 2000.

IMPACT CRITERIA AND THRESHOLDS

- **General Plan Policy C**

- Addition of “one vehicle trip” to Sir Francis Drake Boulevard

- **Threshold for Intersections**

- LOS D or better at signalized intersections
- LOS C or better at unsignalized intersections
- Suggested threshold for intersections operating at LOS E or F:
 - *Project causes 5 seconds or more of increase in vehicle delay*

- **Threshold for Freeways**

- LOS E or better
- Suggested threshold for freeway segments operating at LOS F:
 - *Project increases Volume to Capacity ratio by 1% or more*



Sources: City of Larkspur General Plan, Marin County Congestion Management Program, San Rafael General Plan, and Corte Madera General Plan

ADDITIONAL IMPACT CRITERIA AND THRESHOLDS



- Disrupt existing or planned pedestrian facilities
- Conflict with adopted pedestrian system plans, guidelines, policies or standards



- Disrupt existing or planned bicycle facilities,
- Conflict with adopted bicycle system plans, guidelines, policies or standards
- Not enough secure and safe bicycle parking

Source: Corte Madera General Plan EIR

ADDITIONAL IMPACT CRITERIA AND THRESHOLDS



- A significant unanticipated increase in transit ridership
- Development that is inaccessible to transit riders



- Parking demand that exceeds supply, resulting in off-site and indirect impacts such as noise and air quality impacts

Other Considerations:

- Inadequate emergency access
- Incompatible design features and conflicts between users

Source: Corte Madera General Plan EIR

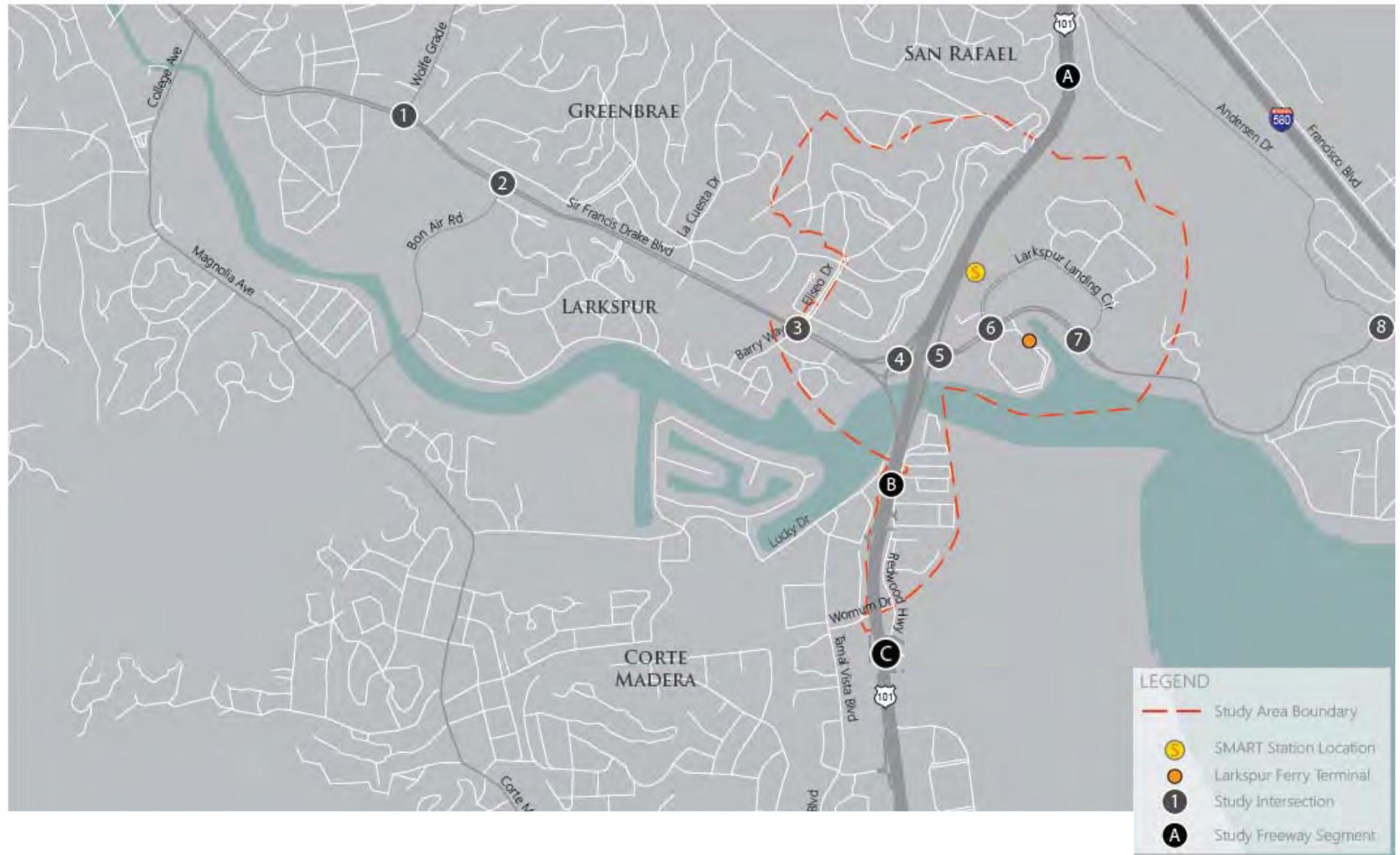
TRAFFIC CONDITIONS



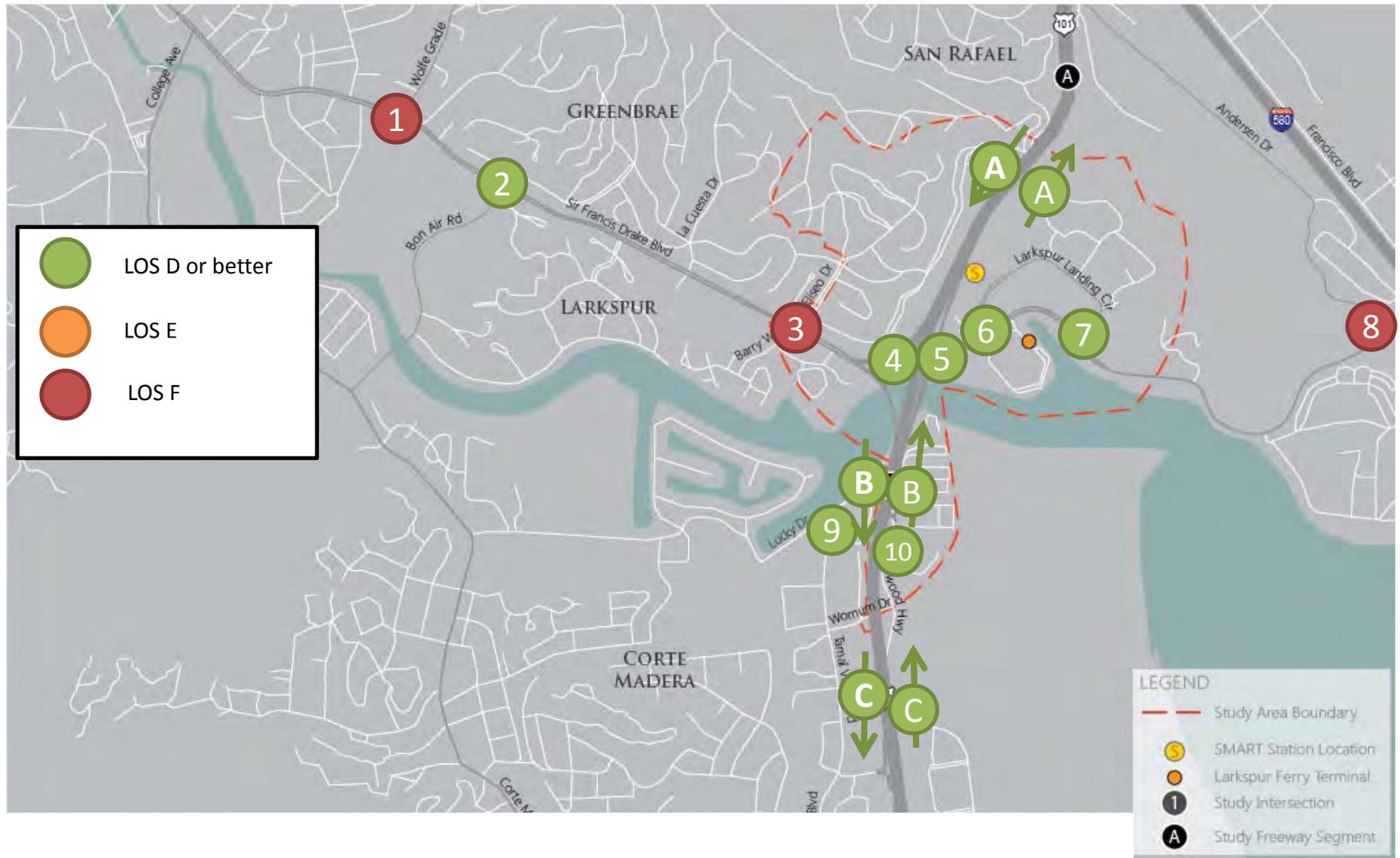
- Preferred Plan Travel Demand (Build Out)
- Existing Traffic Conditions
- Project Intersection and Freeway Impacts and Mitigation Measures
- Cumulative Intersection and Freeway Impacts and Mitigation Measures

EXISTING CONDITIONS

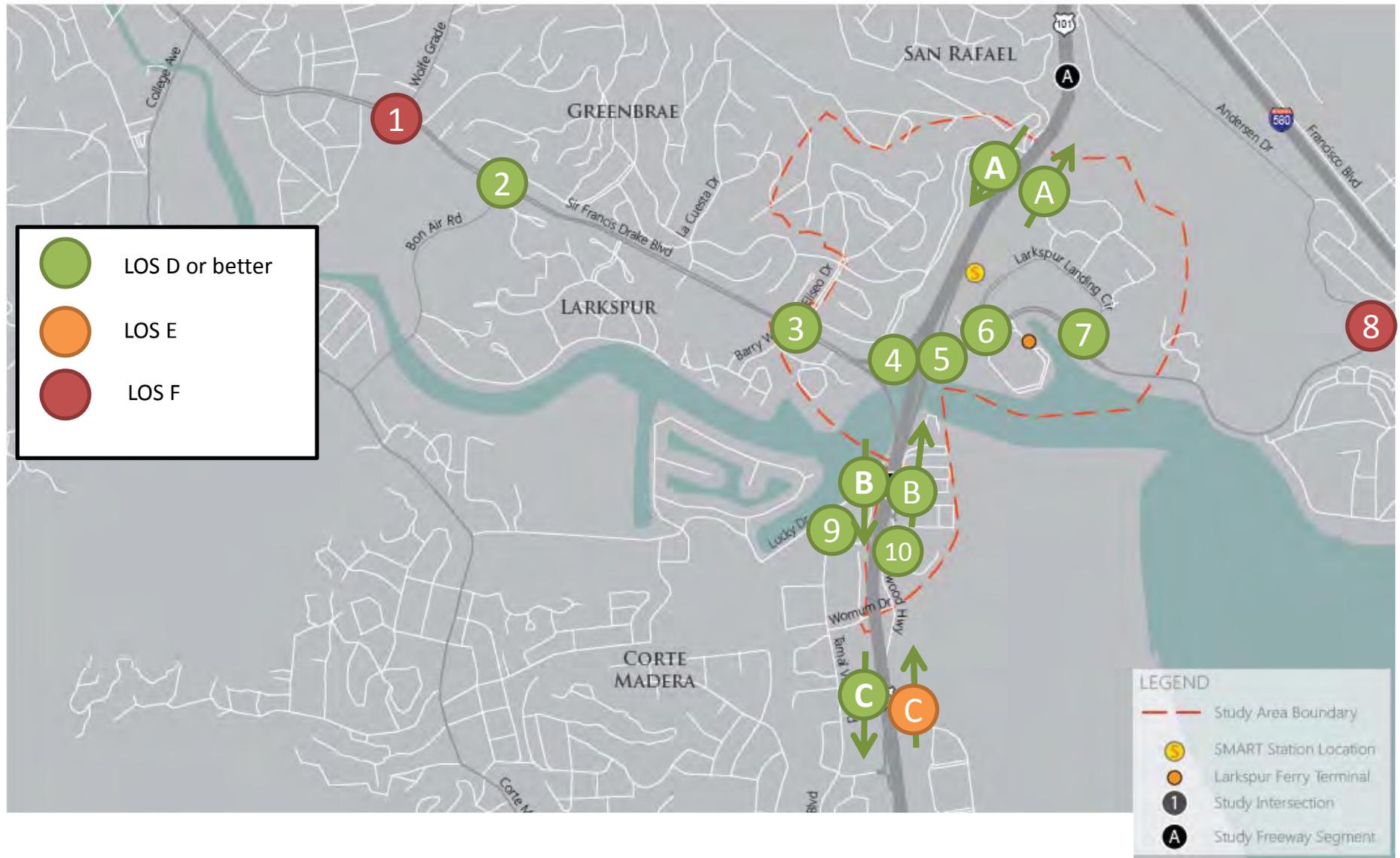
STUDY INTERSECTIONS AND FREEWAY SEGMENTS



EXISTING AM INTERSECTION LEVELS OF SERVICE



EXISTING PM INTERSECTION LEVELS OF SERVICE



PROJECT CONDITIONS

MIXED-USE TRIP GENERATION VALIDATION

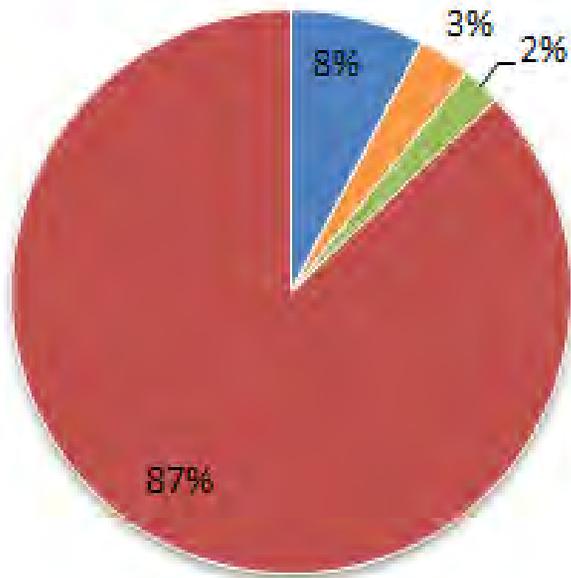
Type of Trip	Peak Hour Trip Generation	
	AM	PM
ITE Trip Generation Prediction	1,310	2,110
Plan + Tool Trip Generation Prediction	1,080	1,630
Larkspur Ferry Terminal (from counts)	770	630
ITE Total	2,080	2,740
Plan+ Total	1,850	2,260
Existing Driveway Counts	1,730	2,340
Difference between ITE and Existing Counts	+20.2%	+17.1%
Difference between Plan+ and Existing Counts	+6.9%	-3.4%

MODE SHIFT STRATEGIES INCORPORATED IN TRIP GENERATION

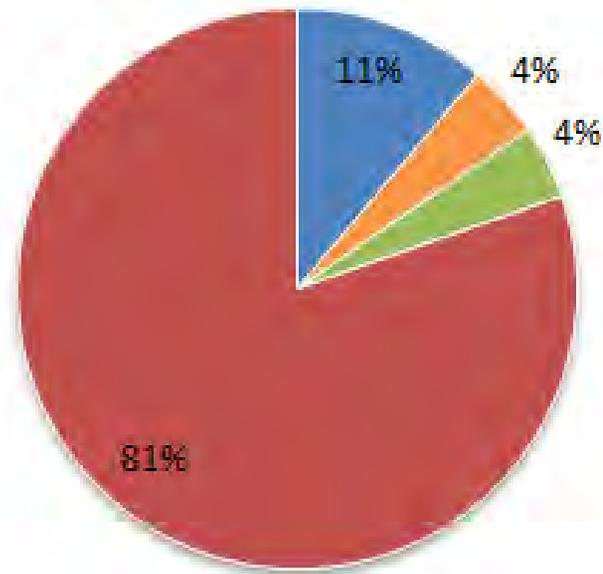
Site Specific Trip Reduction Strategies				
Development Site	Trips per Land Use			
	Residential	Office	Retail	Feasibility
Increased Density and Diversity of Land Uses	↓ ↓	↓	↓ ↓	★ ★ ★
Transit Service	↓ ↓	↓	↓	★ ★ ★
Bike / Ped Improvements	↓	↓	↓	★ ★
Basic Parking Pricing and Management	↓	↓	↓	★ ★
Aggressive Parking Pricing and Management	↓ ↓	↓ ↓	↓	★
Shuttle Service	--	↓ ↓	↓	★

MODE SHARE COMPARISON

Existing Site



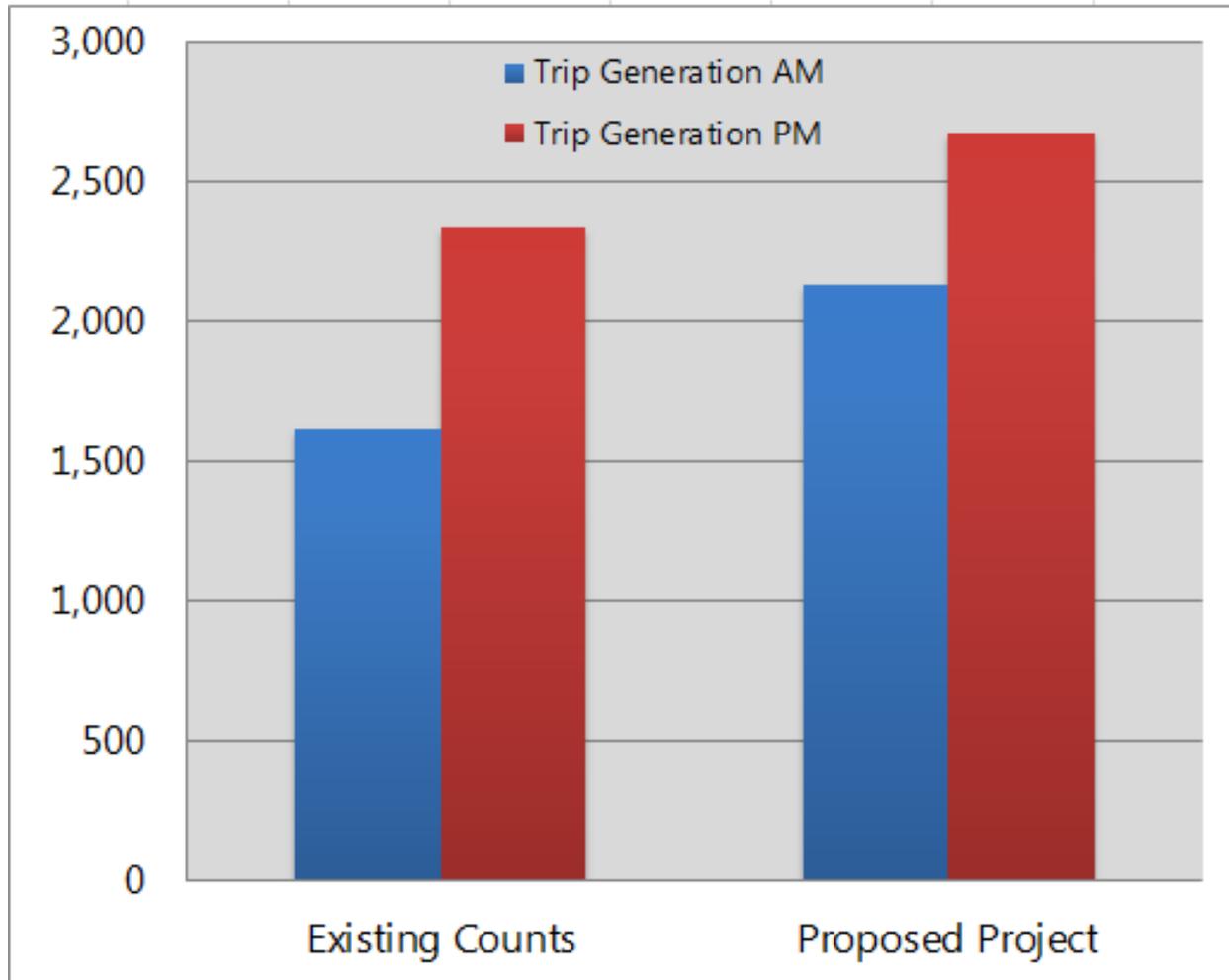
Proposed Project



- Internal
- Walk/Bike
- Transit
- Vehicle

Proposed project would encourage trips to remain on-site and would increase overall transit use

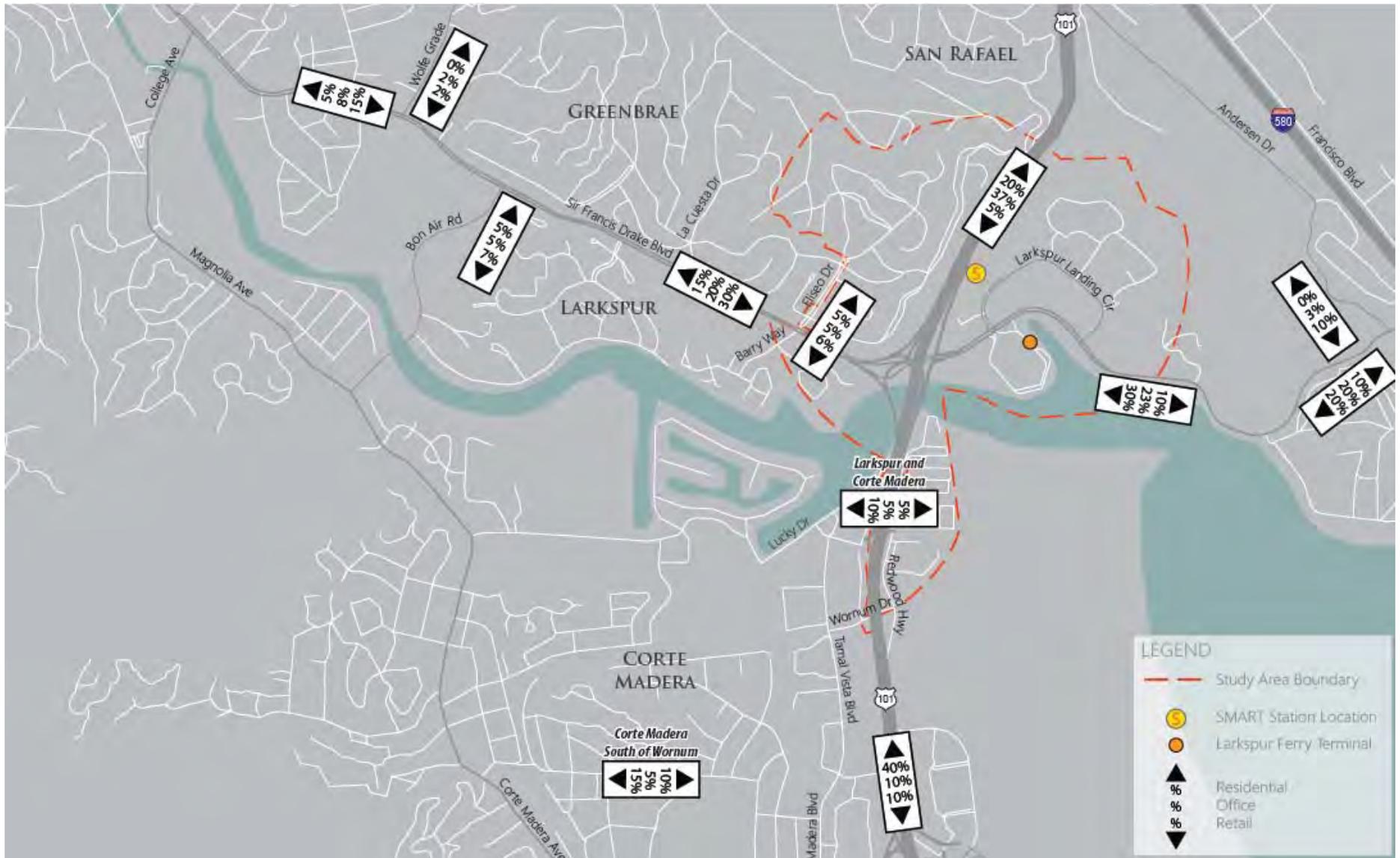
PROPOSED TRIP GENERATION



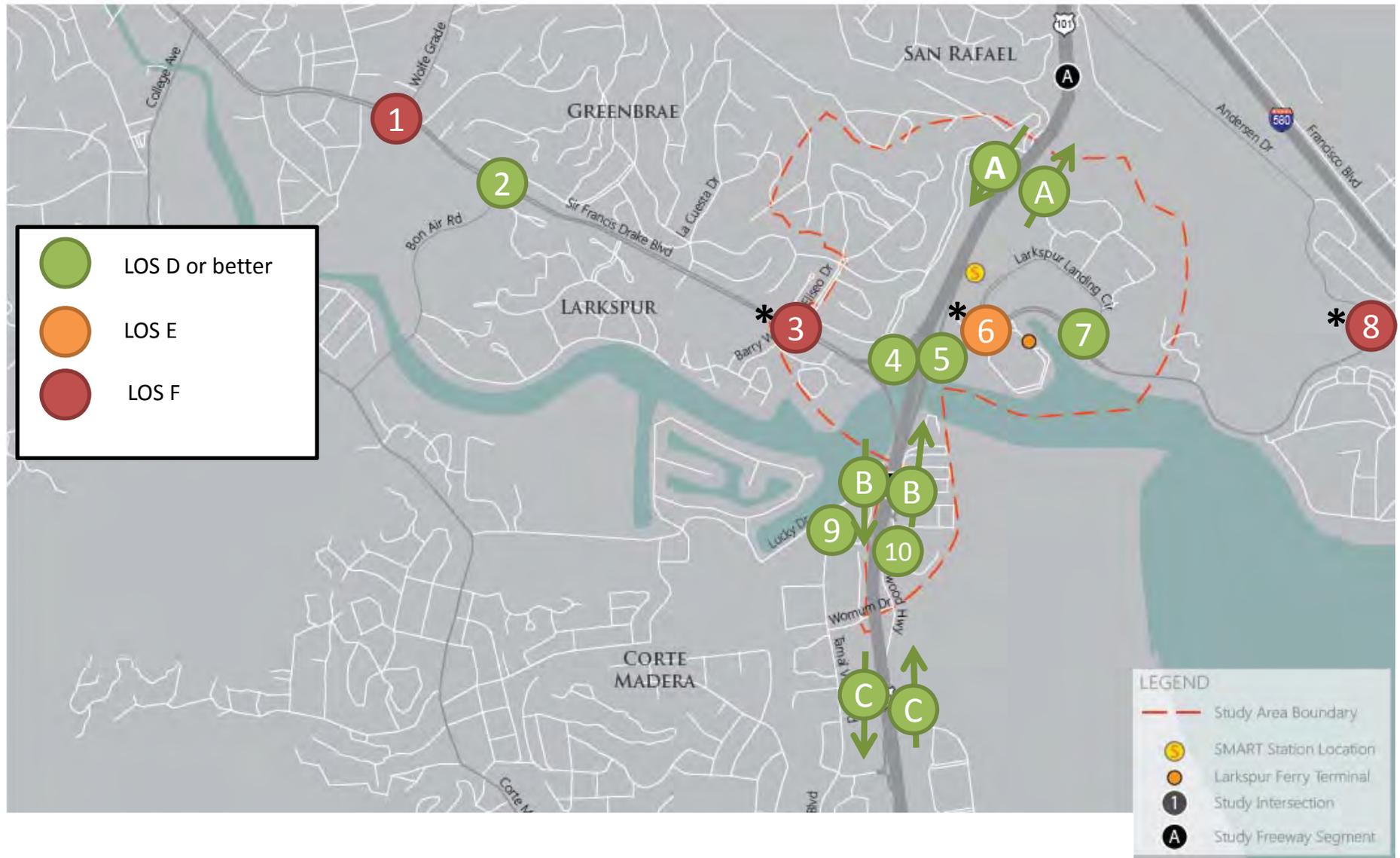
AM: 32% increase

PM: 14% increase

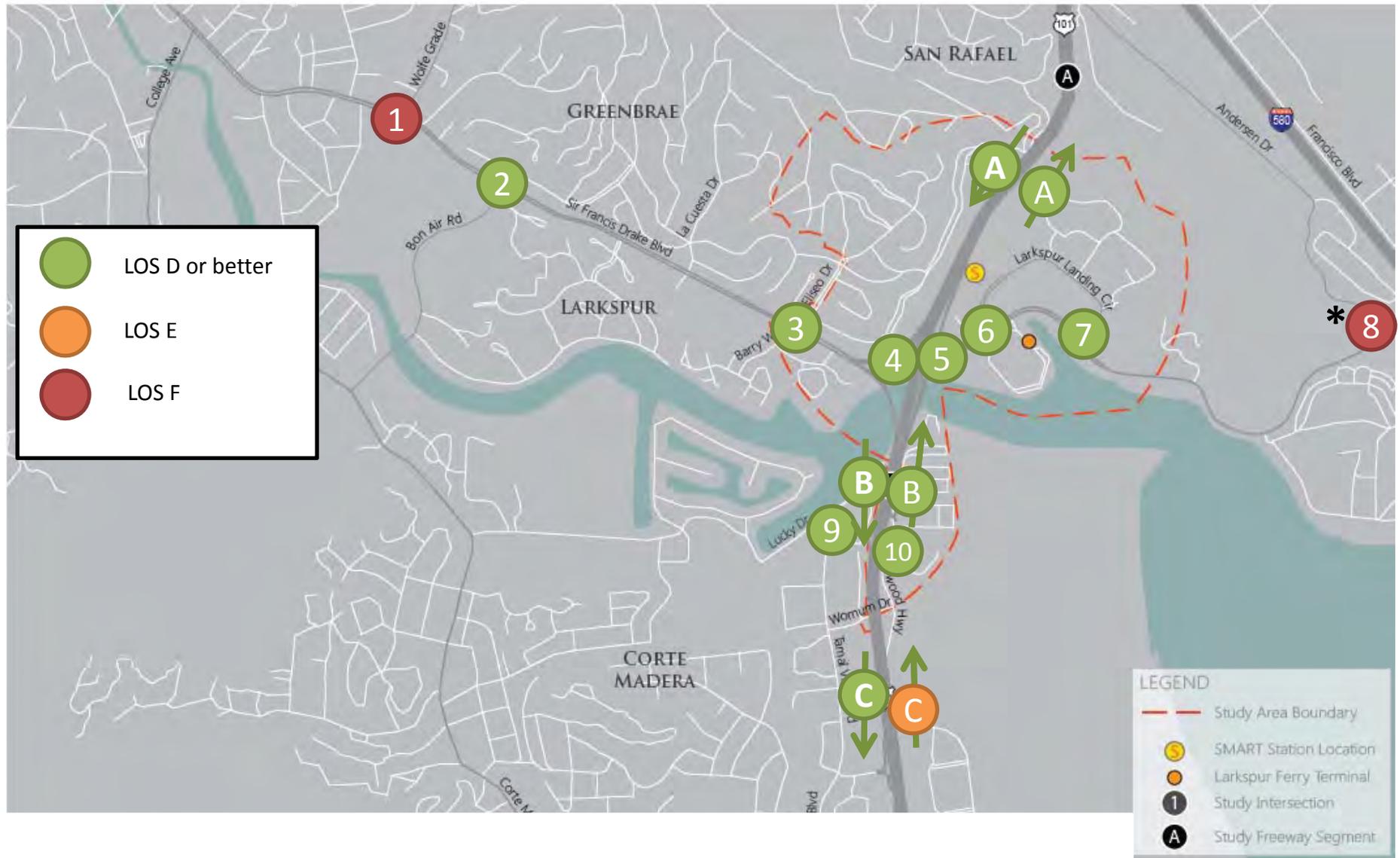
PROJECT TRIP DISTRIBUTION



EXISTING + PROJECT AM INTERSECTION LEVELS OF SERVICE



EXISTING + PROJECT PM INTERSECTION LEVELS OF SERVICE



IMPACTS AND POTENTIAL MITIGATION MEASURES

- Sir Francis Drake Boulevard / Eliseo Drive:
 - Capacity improvements on Sir Francis Drake Boulevard approaches
- Sir Francis Drake Boulevard / Larkspur Landing Circle West / Ferry Terminal Entrance
 - Retime signals to better serve westbound traffic at US-101
- Sir Francis Drake Boulevard / Andersen Drive
 - Traffic Signal

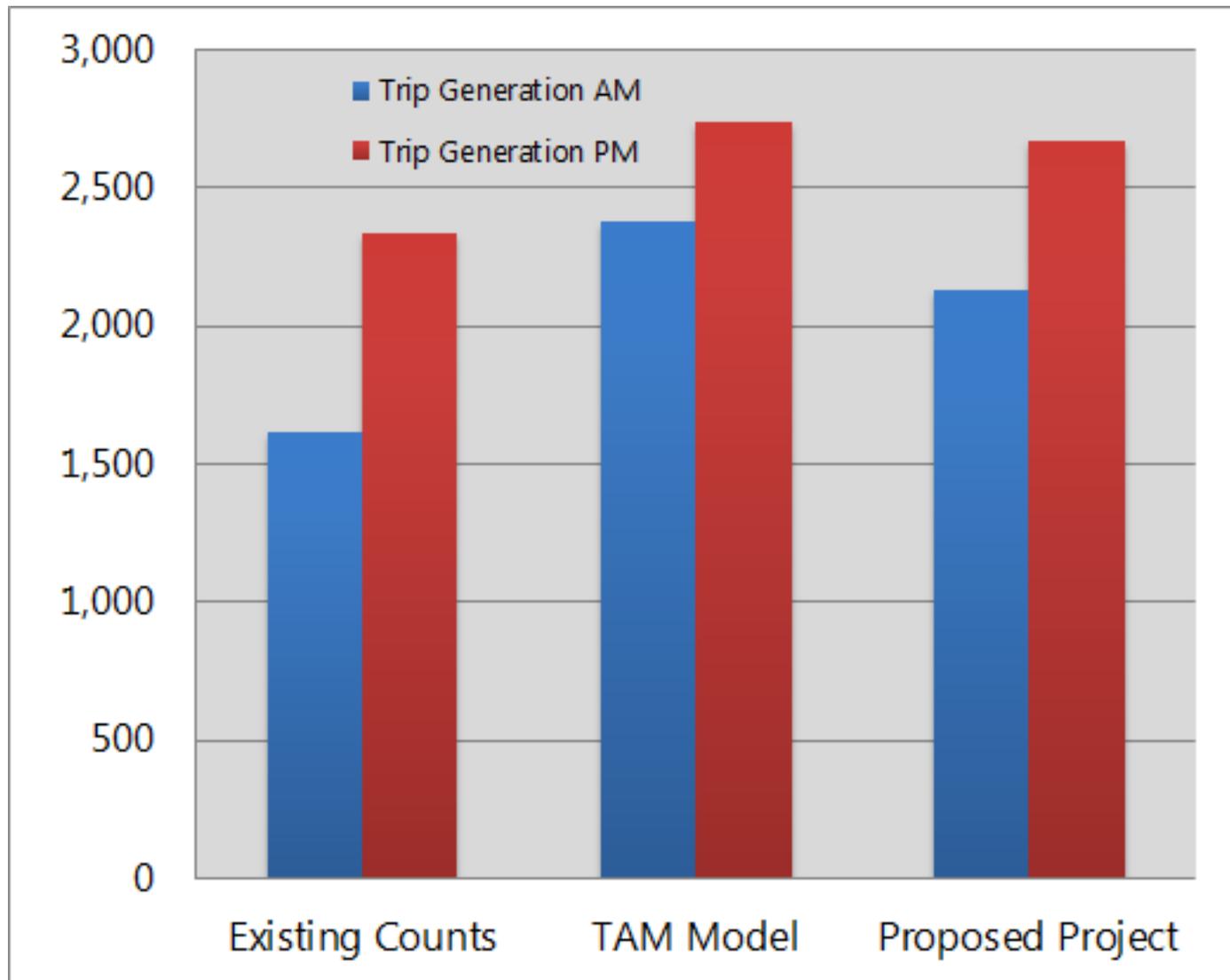
Potential mitigation measures would reduce project level traffic impacts to *less-than-significant*.

CUMULATIVE CONDITIONS

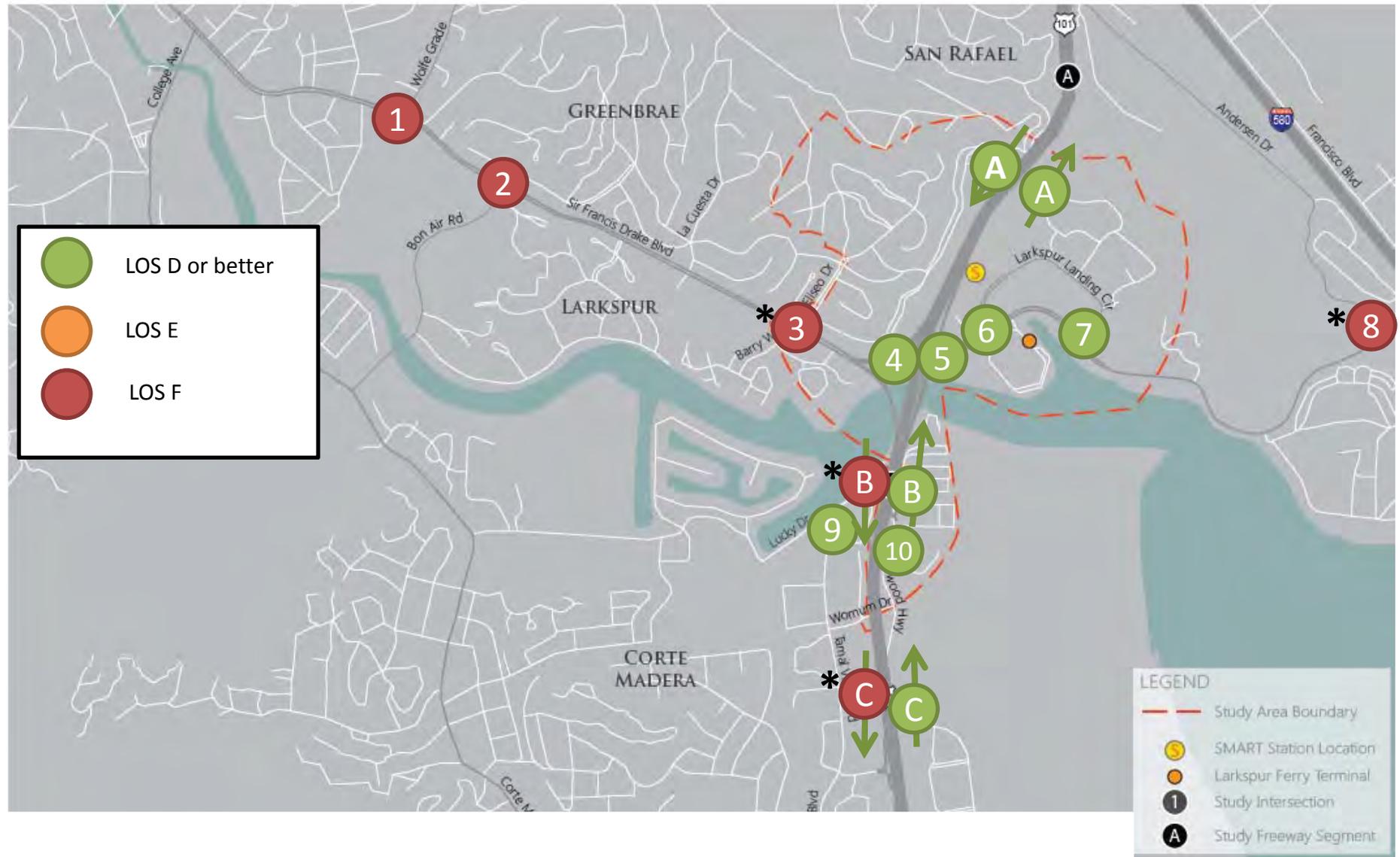
FUTURE PROJECTION ASSUMPTIONS

- Cumulative traffic forecasts based on Marin Countywide Travel Model, includes data from several sources:
 - Marin Countywide Plan
 - Corte Madera General Plan
 - Larkspur General Plan
 - Other Marin County general plans
 - ABAG regional growth forecasts
 - Local development projects known at time of NOP
- Model accounts for traffic effects of:
 - Local and regional land use changes
 - Local and regional transportation improvements
- Maintained by TAM - base year of 2005 and future year of 2035

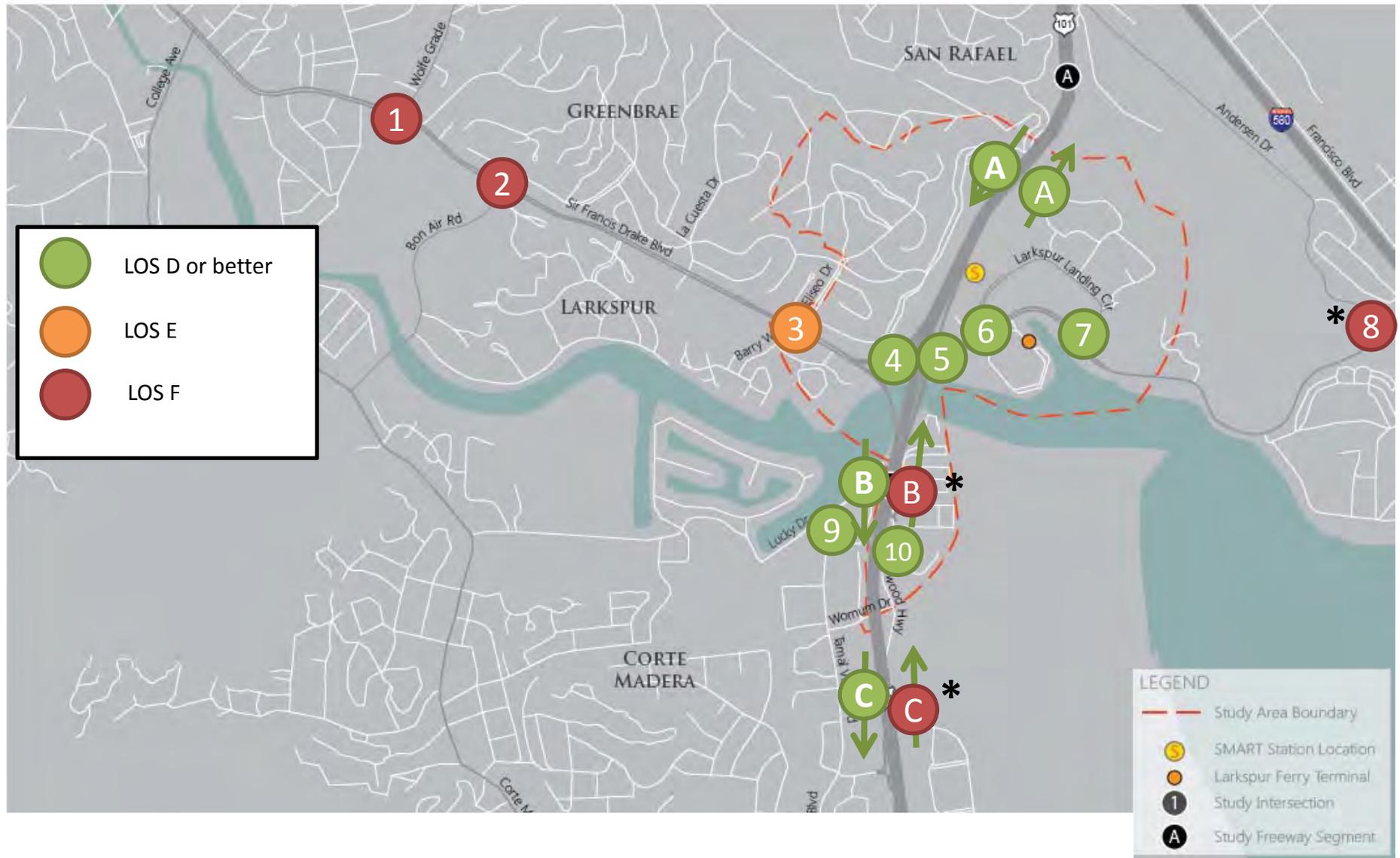
TRIPS GENERATED AT PROJECT SITE



CUMULATIVE + PROJECT AM INTERSECTION LEVELS OF SERVICE



CUMULATIVE + PROJECT PM INTERSECTION LEVELS OF SERVICE



POTENTIAL IMPACTS AND MITIGATION MEASURES

- Sir Francis Drake Boulevard / Eliseo Drive
 - Capacity improvements on Sir Francis Drake Boulevard approaches
- Sir Francis Drake Boulevard / Andersen Drive
 - Traffic signal
- US-101
 - Mainline capacity improvements

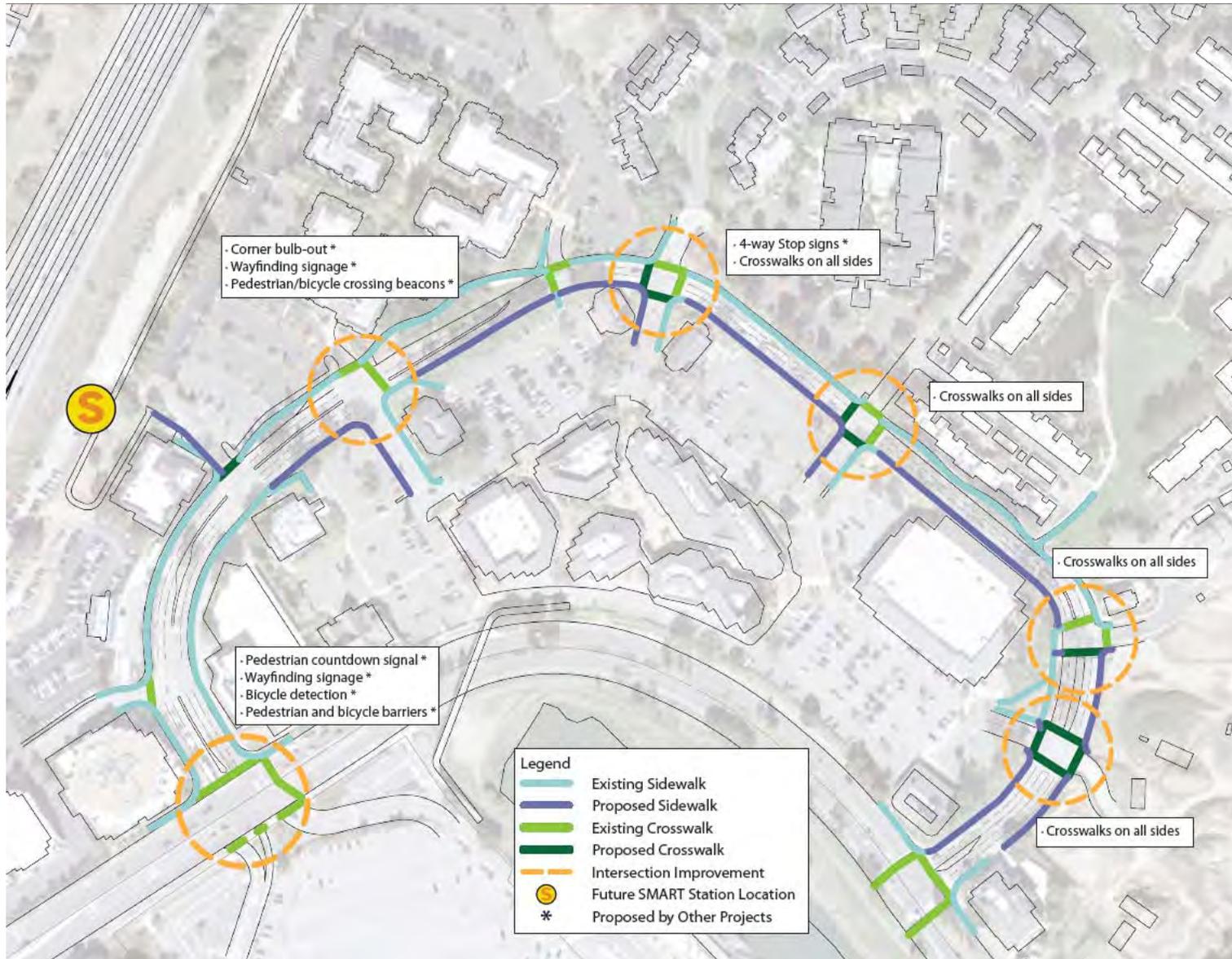
Potential mitigation measures would reduce cumulative traffic impacts to *less-than-significant* with the exception of US-101, for which improvements are uncertain at this time.

PEDESTRIANS, BICYCLISTS, AND TRANSIT CONDITIONS

PROPOSED PEDESTRIAN AND BICYCLE CIRCULATION



ON-SITE CROSSING IMPROVEMENTS



PEDESTRIAN AND BICYCLE SUMMARY

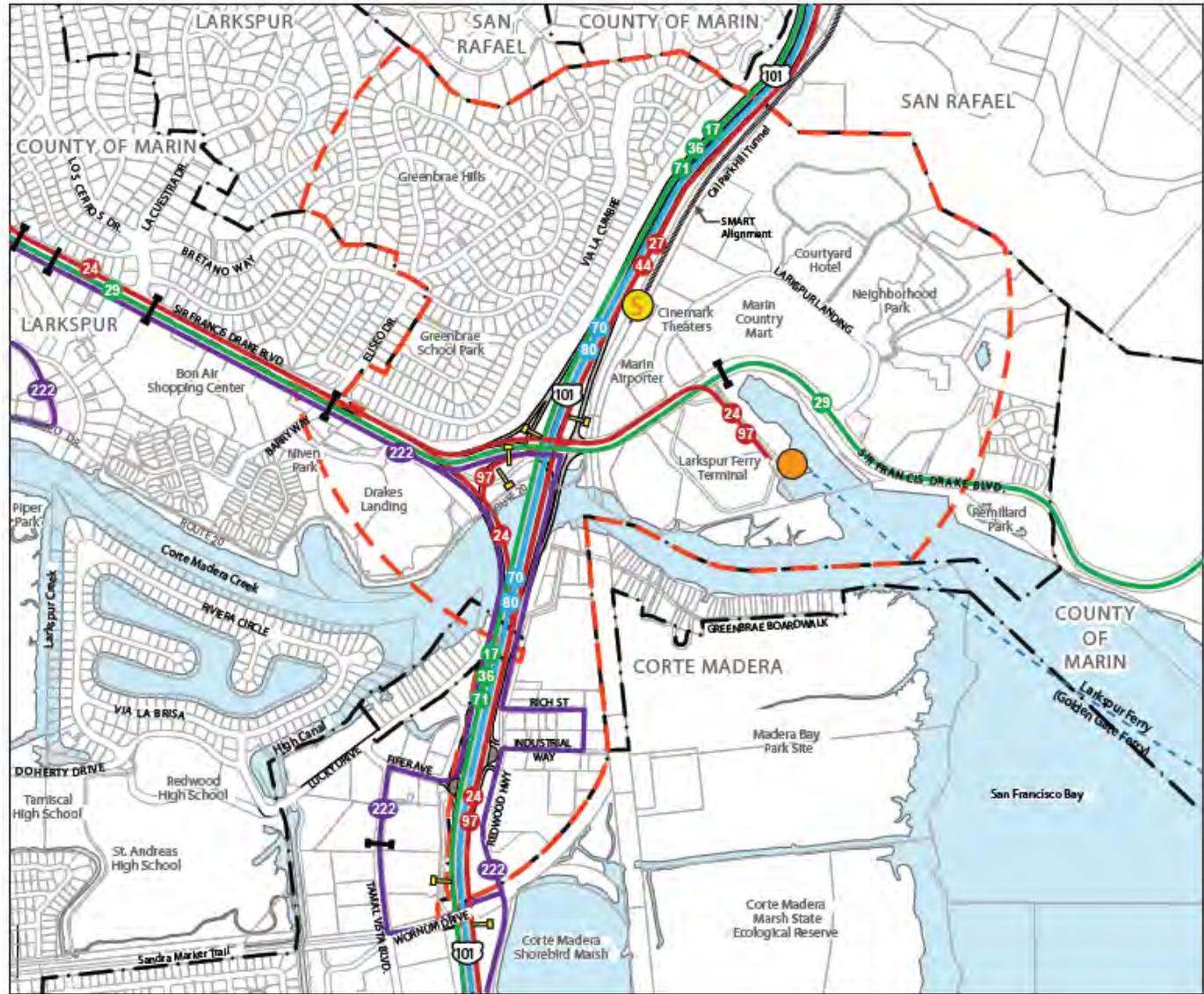
- Improved on- and off-site connections
- Existing conditions improved and accommodates other planned improvements
- Would not conflict with adopted plans or policies
- Required bicycle parking for all land uses



PUBLIC TRANSIT CONDITIONS

Figure 2.7: Existing and Proposed Transit Facilities

- LEGEND**
- STUDY AREA BOUNDARY
 - CITY BOUNDARY
 - SMART STATION LOCATION
 - LARKSPUR FERRY TERMINAL
 - WATER
 - LOCAL ROUTE
 - BASIC BUS ROUTE
 - COMMUTE ROUTE
 - COMMUNITY SHUTTLE
 - EXISTING BUS PAD/STOP
 - EXISTING BUS STOP
 - PROPOSED BUS STOP



PUBLIC TRANSIT CONDITIONS

- Improved on- and off-site connections to public transit
- Increased transit ridership of approximately 600 to 700 daily riders:
 - Ferry – Golden Gate Transit is currently studying expanded transit service
 - SMART– Would not exceed projections in SMART EIR
 - Golden Gate Transit



OTHER CONSIDERATIONS

PARKING STUDY AREA

Sub-Area 1A



PROPOSED PARKING SUPPLY

Development Site	Existing	Proposed				
		Residential	Office	Retail	Other	Total
Ferry Terminal	1,800	320			1,800	2,120 (+320)
Sanitary District	0	400			20	420 (+420)
Marin Airporter	340					340* (0)
Marin Country Mart	810	320		950		1,270 (+460)
Larkspur Landing Offices / Cinema	630	150	640		20	810 (+190)
Total	3,580	1,190	640	950	1,840	4,960 (1,380)

* Golden Gate Transit District is currently studying options to provide additional overflow parking at this location. These plans do not preclude additional parking at this site.

PARKING POLICIES UNDER CONSIDERATION

- Reduce off-street parking requirements through shared parking and off-street parking maximums
- Unbundled parking for residents and parking cash out options for employers
- Parking management strategy including variable parking pricing, premium pricing close to Ferry Terminal, and residential permit districts
- District-wide TDM Program
- District-wide bicycle parking requirements, including secure long-term and short-term parking options

NEXT STEPS
