

Mira Mesa Community Plan Update: Future Mobility Analysis

Planning Department

November 15, 2021

6 p.m. to 6:50 p.m. – Mira Mesa Community Plan Update Advisory Committee



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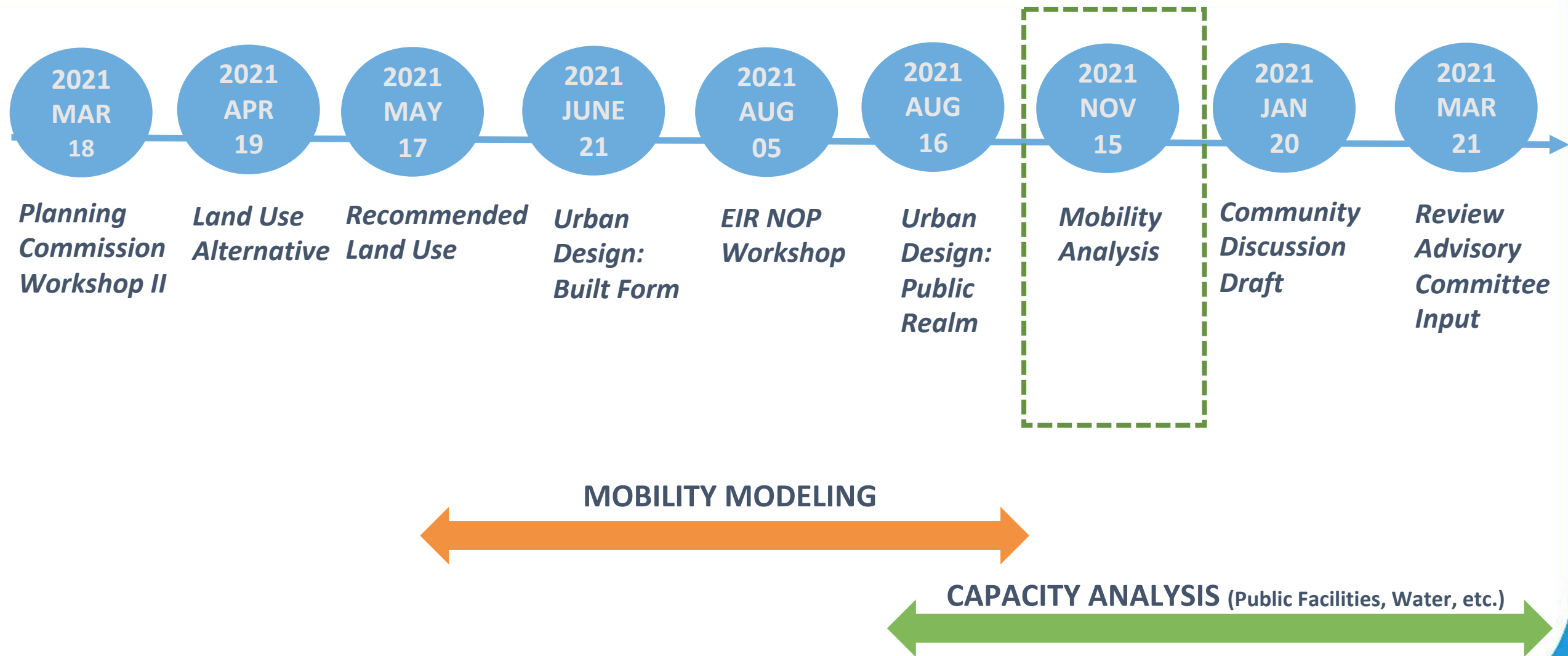
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Kimley-Horn Associates



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Project Analyst
Kimley-Horn Associates

1. Mira Mesa Community Plan Update Schedule
2. Mobility Vision
3. Future Mobility Conditions
4. Next Steps







Mobility Vision Review

Vision: Community Goals



CONNECT THE COMMUNITY

- Expand personal mobility travel options for all users
- Create an interconnected street system to access key locations
- Create mobility connections to surrounding communities and the region



IMPROVE TRANSIT

- Provide transit infrastructure improvements
- Provide first and last-mile improvements for all mobility options
- Incorporate mobility hubs



MODERNIZE MOBILITY

- Launch Intelligent Transportation Systems (ITS) facilities

Vision: Modal Strategies



Make transit a competitive and reliable option



Create a network of separated bikeways for regional access & parallel low-stress routes for local trips within Mira Mesa



Enhance walkable connections for residents, employees, and retail visitors

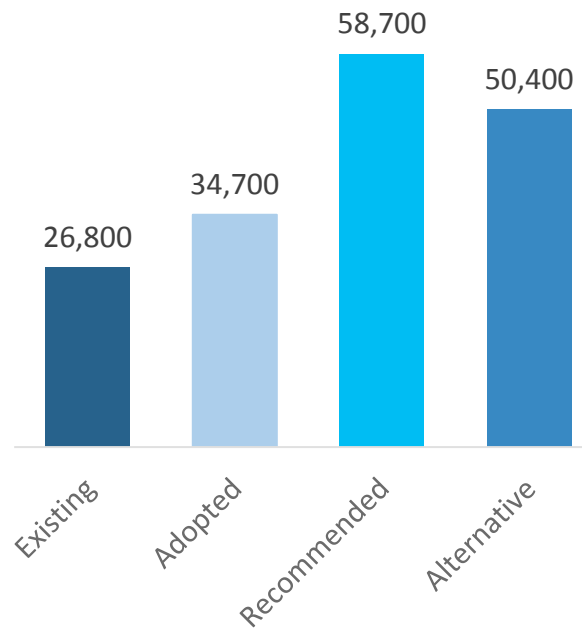


Maximize roadway efficiency

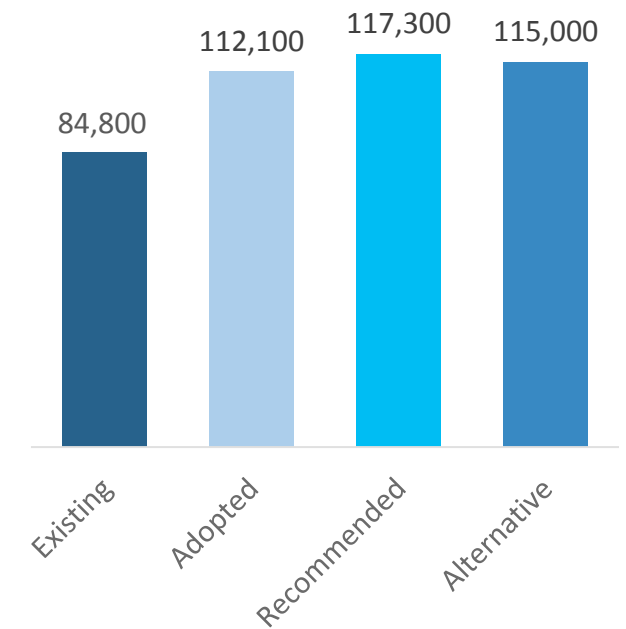
Vision: Land Use and Mobility Collaboration



Dwelling Units



Employment



SANDAG Model

Simulates individual and household mobility decisions that create their daily travel patterns



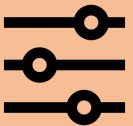
Whether to travel



Where to travel to



When to travel

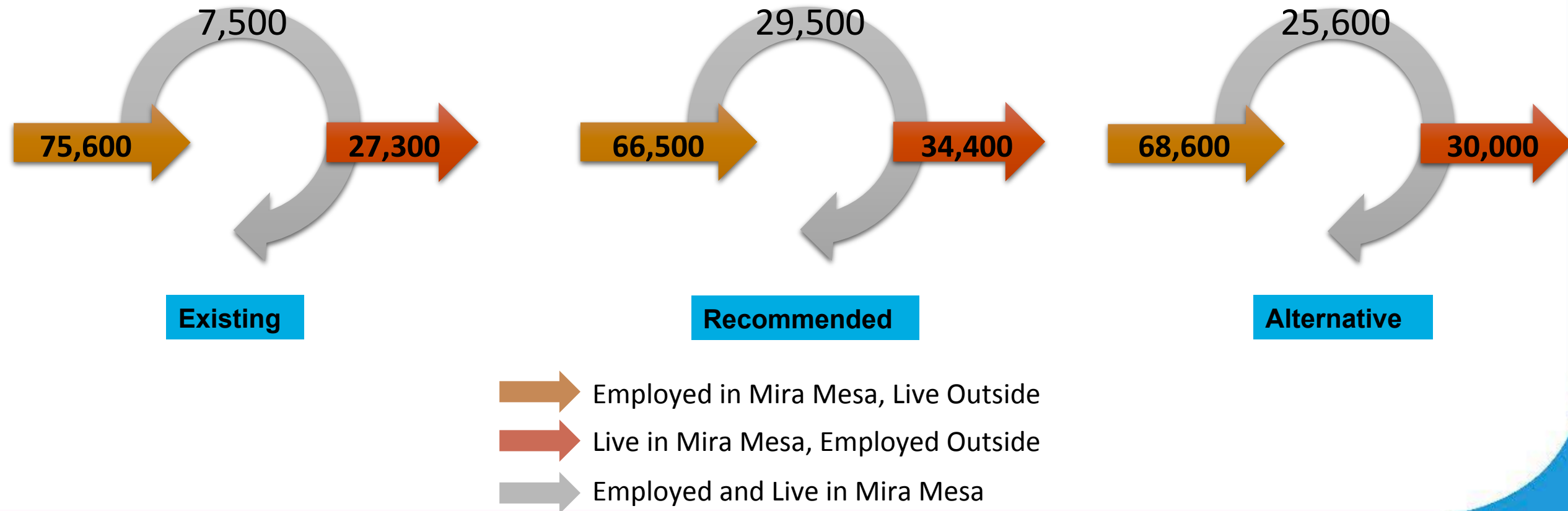


How to travel



Vision: Travel Patterns

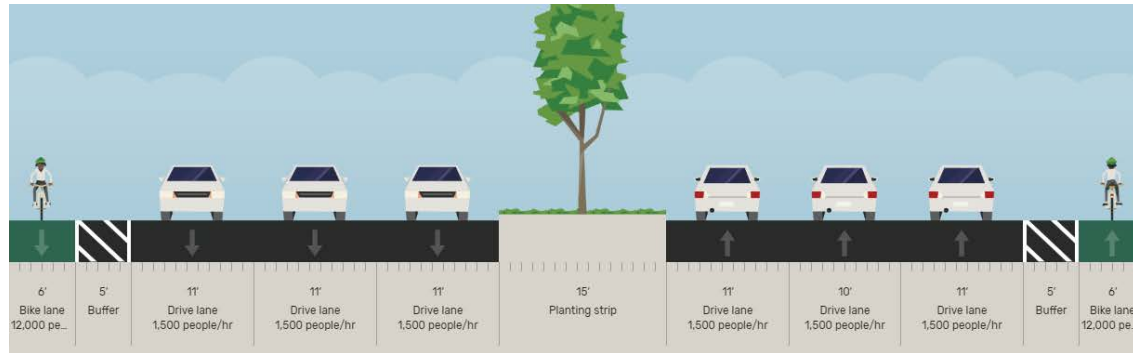
Mira Mesa Workers Inflow/Outflow Analysis



Vision: Competing Modes – Mira Mesa Blvd

EXISTING

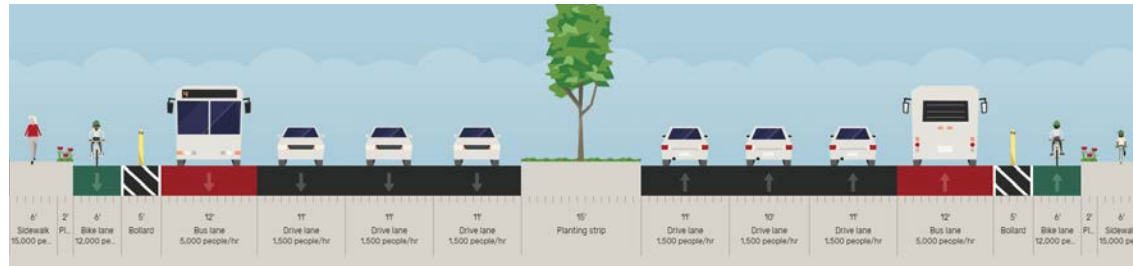
102' ROW



Source: Streetmix

"IF EVERYTHING
FIT"

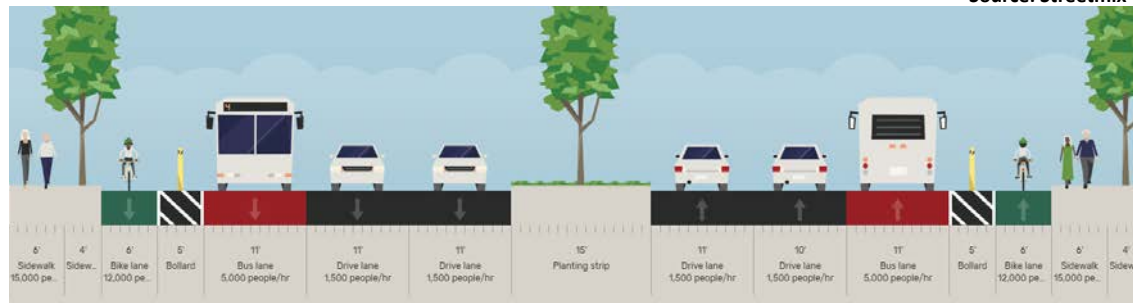
126' ROW



Source: Streetmix

PROPOSED

102' ROW



Source: Streetmix

Mira Mesa Blvd (Looking East):
Scranton Rd to Shilling Ave

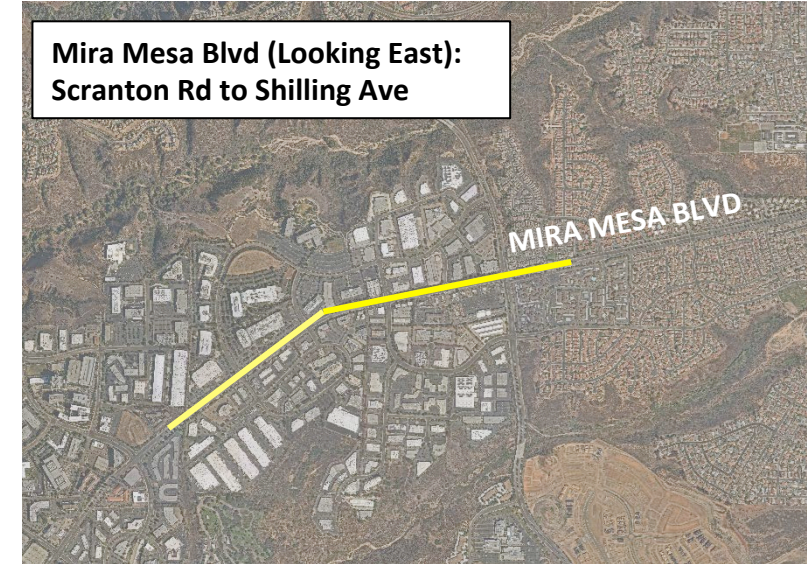
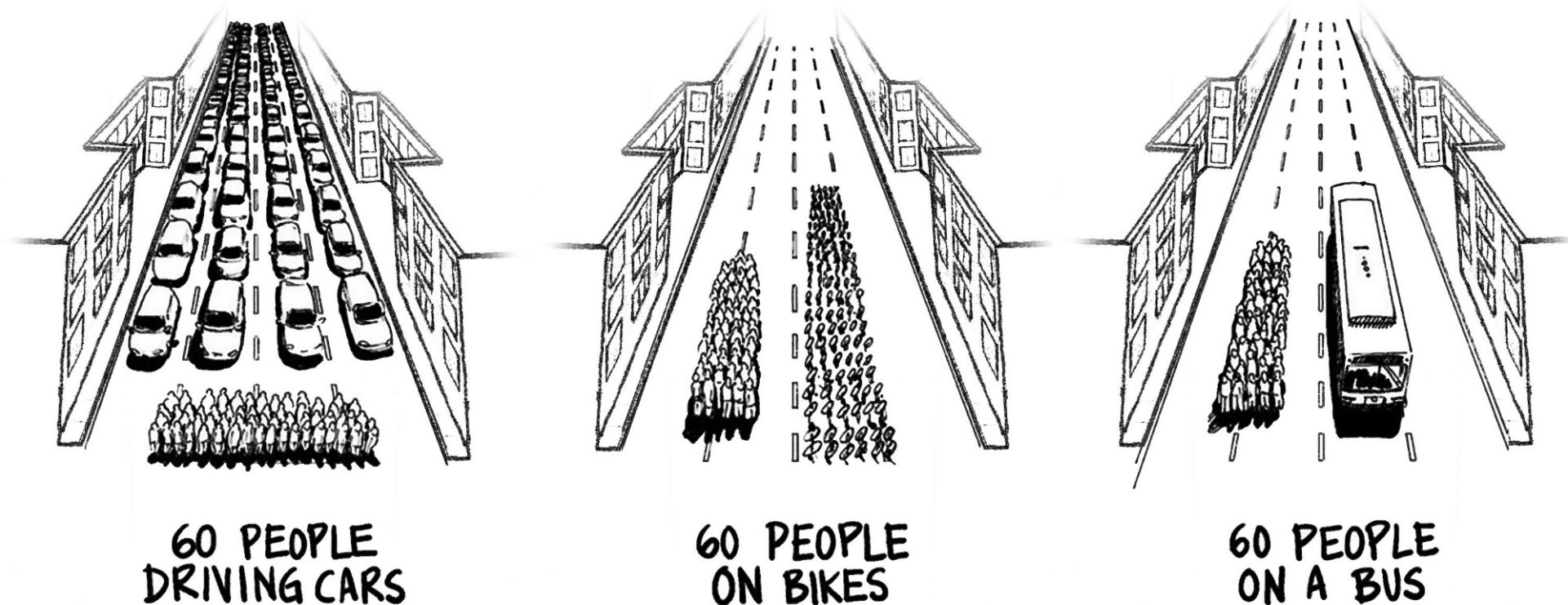


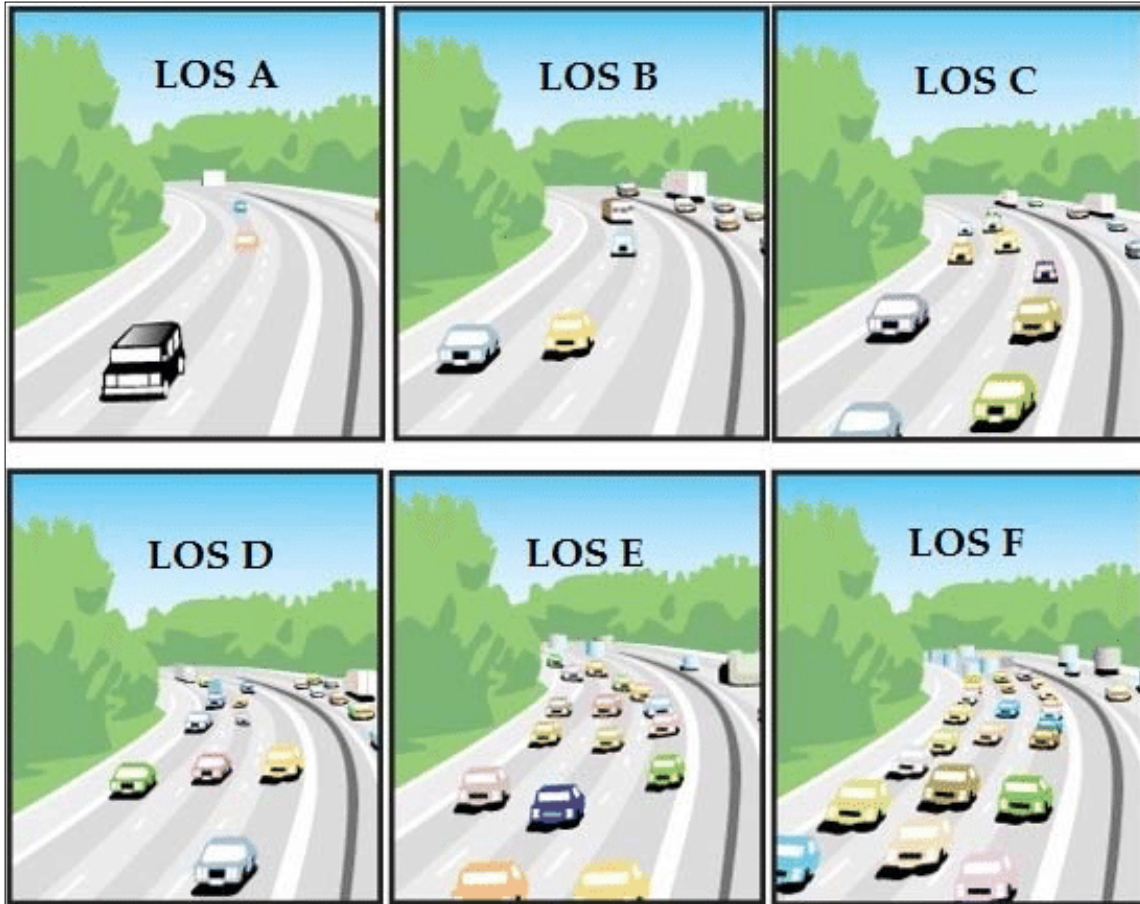
Image: Google Earth

Vision: Moving More People

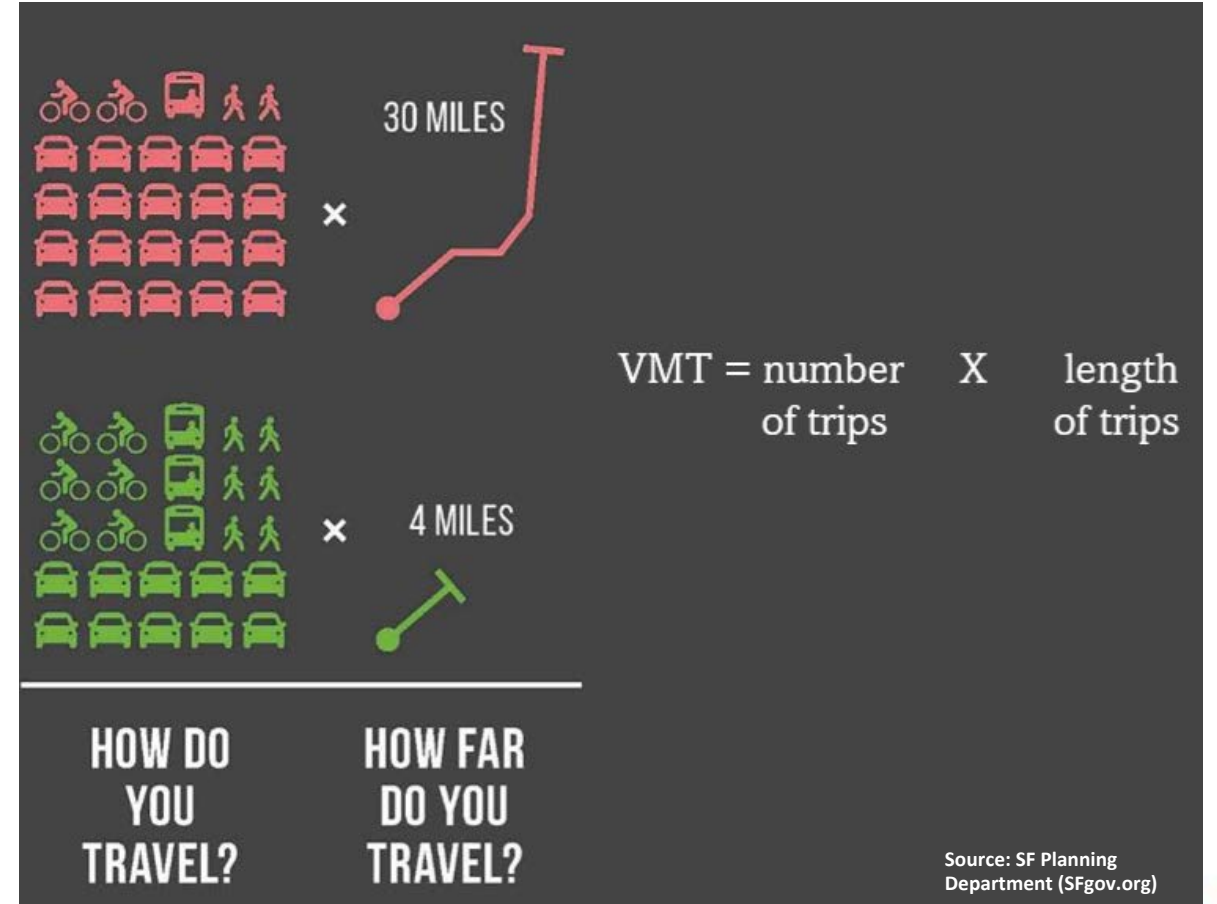


Source: Bikeyface

Vision: Mobility Analysis Method - LOS vs. VMT



Source: Ezenwa Amanamba



Source: SF Planning Department (SFgov.org)



Future Mobility Conditions

Future Mobility Conditions: Outline

Mode Share

Vehicular Analysis

Transit Analysis

Pedestrian Analysis (PEQE)

Bicycle Analysis (BLTS)

Mode Share Percentages: All Daily Trips



SOV

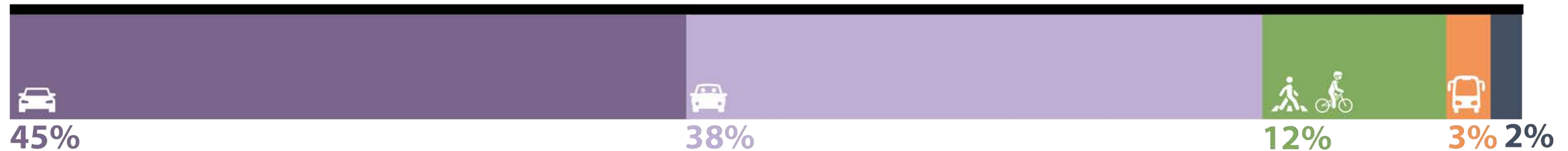
HOV

Active

Transit

Other

ADOPTED



RECOMMENDED



ALTERNATIVE



Mode Share Percentages: Peak Hour Trips



SOV HOV Active Transit

ADOPTED



RECOMMENDED



ALTERNATIVE



Vehicle Analysis Methodology



Vehicle Miles Traveled (VMT)

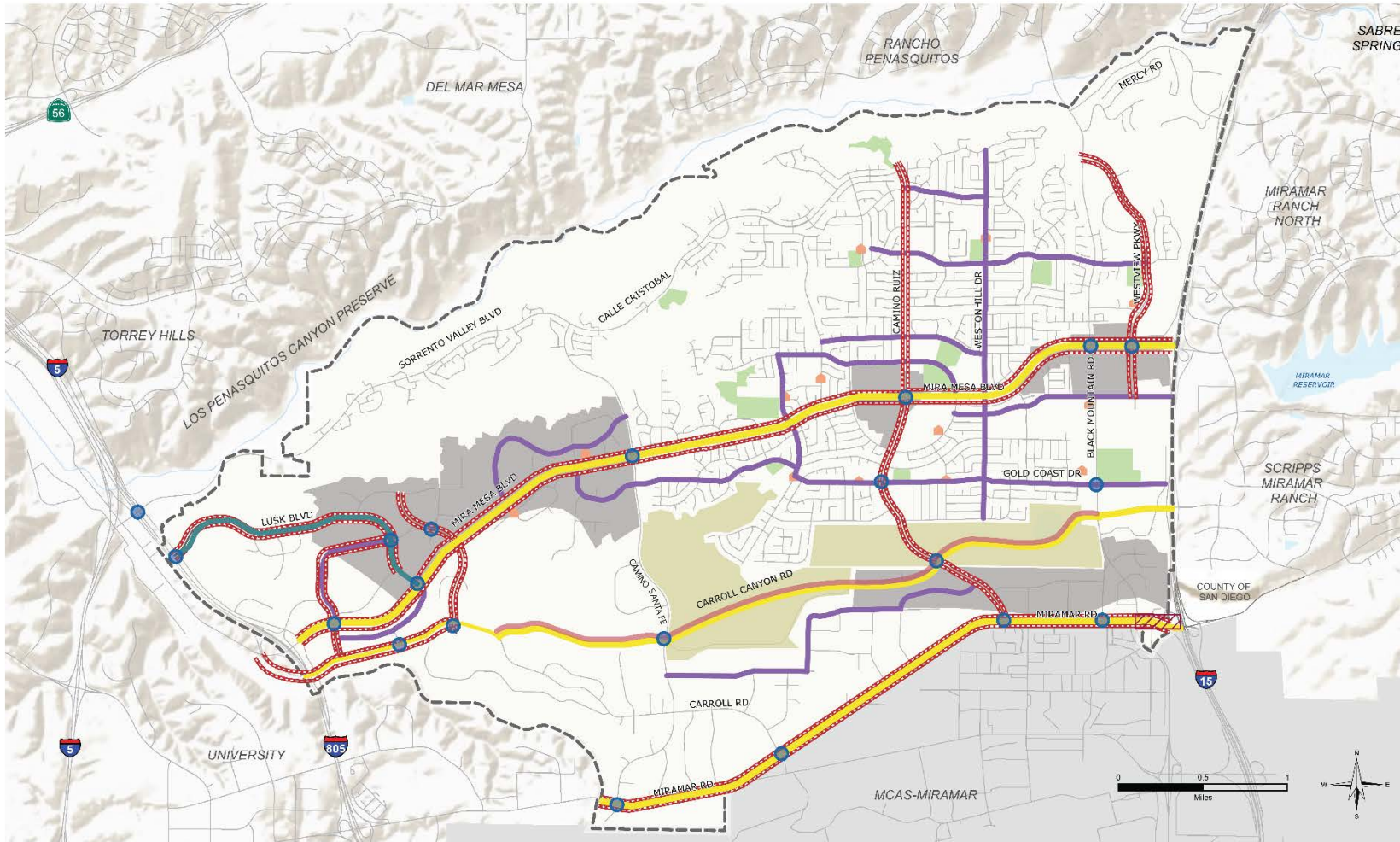
- How you travel
- How far you travel
- Who you travel with

Travel Time Data

- Time to get from A to B



Proposed Vehicle Network



LEGEND

- Mira Mesa Community Plan Boundary
- City and County Parks
- Focus Areas
- Schools
- Future Development

Vehicle Recommendations

- SMART Corridor
- Adaptive Traffic Signal
- Flexible Lane
- Freeway Congestion Improvements
- Proposed Roadway
- Traffic Calming Enhancements
- Transit Signal Priority

Proposed Vehicle Network: VMT Results



Scenario	Resident			Employee		
	Total VMT	Population	VMT/Capita	Total VMT	Population	VMT/Employee
Adopted	1,382,280	103,894	13.3	2,151,566	78,671	27.3
Recommended	1,795,092	167,428	10.7	2,230,738	95,945	23.3
Alternative	1,654,479	145,681	11.4	2,293,980	94,134	24.4

Source: SANDAG ABM Model

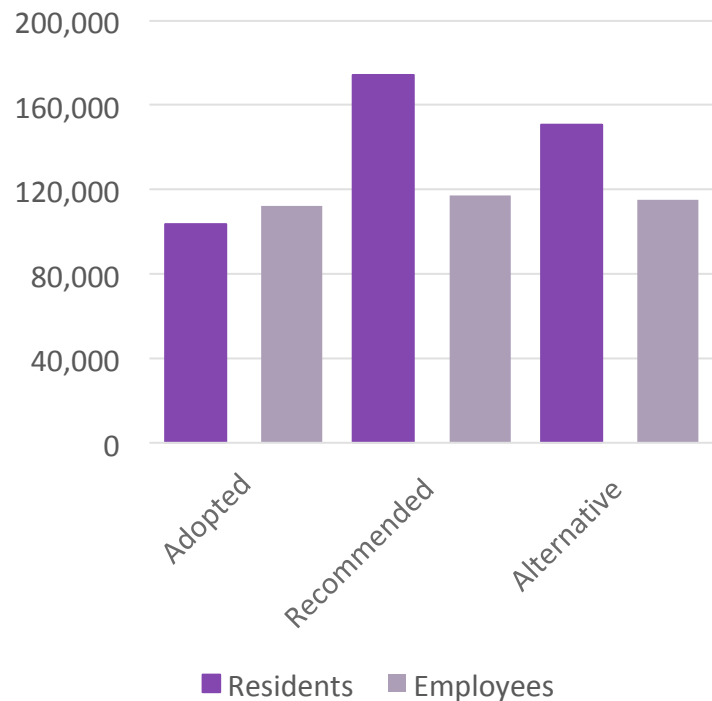
Scenario	Change in Average Commute Trip Length*
Recommended	1.44-mile reduction
Alternative	0.61-mile reduction

*Compared to Adopted Scenario

Proposed Vehicle Network: VMT



Population



VMT per Capita



Source: SANDAG ABM Model

Source: SANDAG ABM Model

Proposed Vehicle Network: Travel Times



Mira Mesa Boulevard: Existing vs. Proposed Travel Time Results

Mira Mesa Boulevard (I-805 to I-15)

Direction	Existing (min)		Recommended (min)		Alternative (min)	
	AM	PM	AM	PM	AM	PM
EB	18	24	+3	+10	+2	+5
WB	26	20	+10	+0	+3	-1

Source: Synchro 11 Travel Time Run

Proposed Improvements:

- SMART Corridor
- Flexible Lanes
- Transit Signal Priority



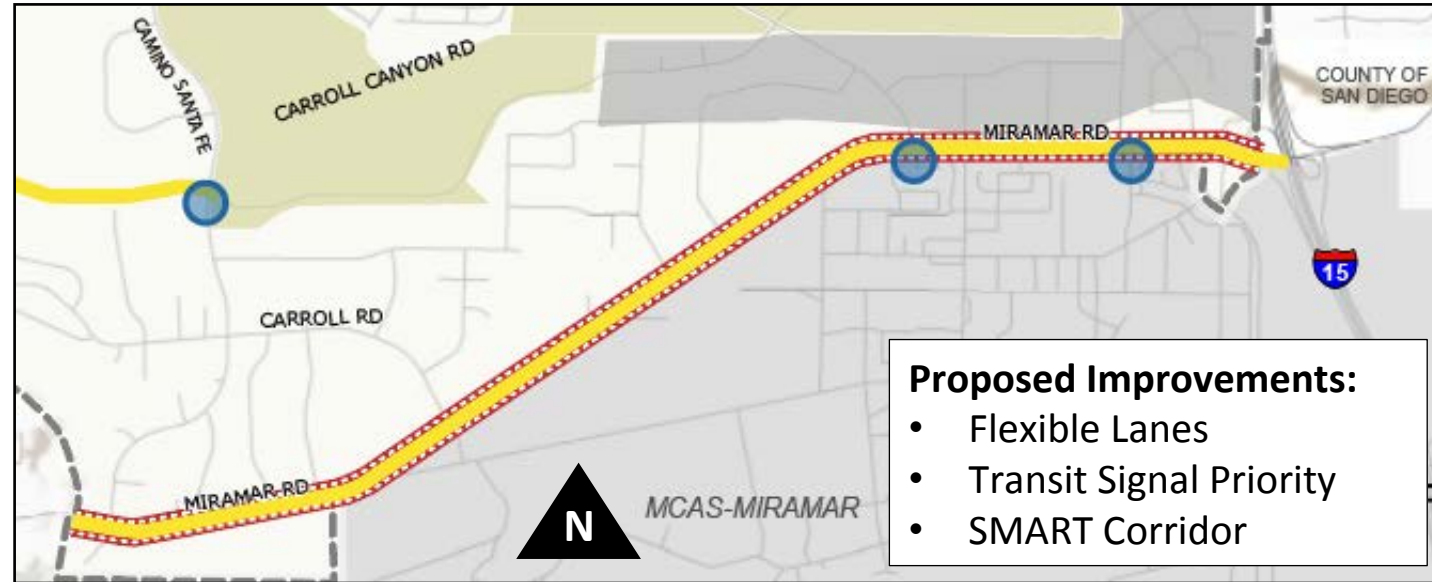
Proposed Vehicle Network: Travel Times



Miramar Road: Existing vs. Proposed Travel Time Results

Miramar Road (Camino Santa Fe to Kearny Villa Rd)						
Direction	Existing (min)		Recommended (min)		Alternative (min)	
	AM	PM	AM	PM	AM	PM
EB	8	9	+0	+1	+1	+3
WB	11	9	+0	+0	+0	+0

Source: Synchro 11 Travel Time Run



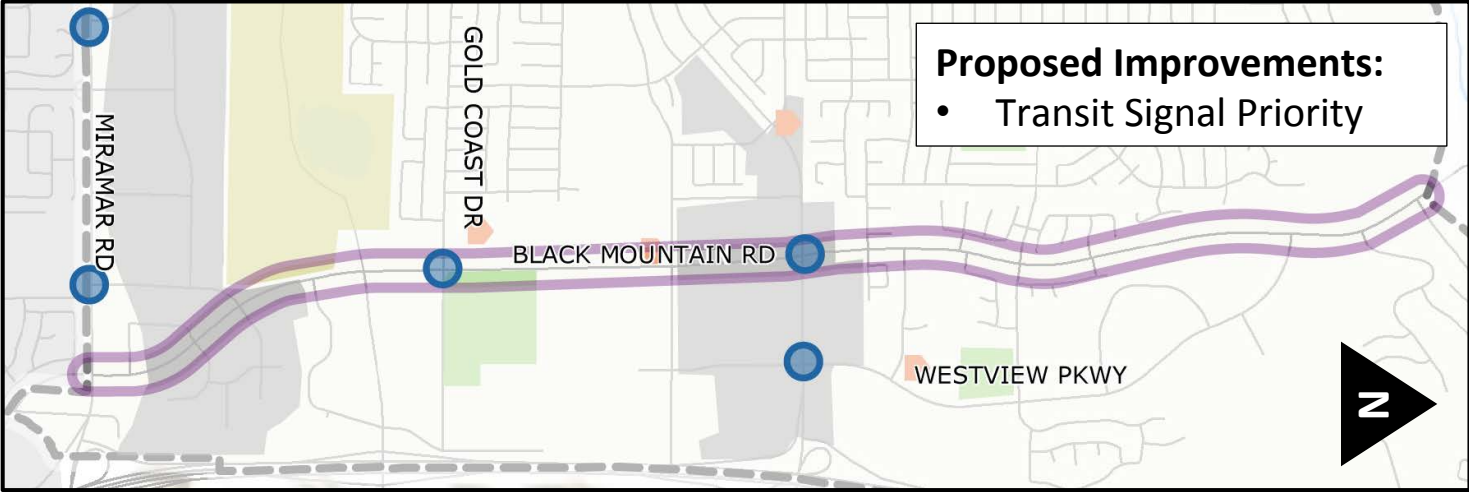
Proposed Vehicle Network: Travel Times



Black Mountain Road: Existing vs. Proposed Travel Time Results

Black Mountain Road (Miramar Rd to Mercy Rd)						
Direction	Existing (min)		Recommended (min)		Alternative (min)	
	AM	PM	AM	PM	AM	PM
NB	11	12	+1	+6	+1	+5
SB	13	12	+2	+5	+1	+5

Source: Synchro 11 Travel Time Run



Transit Analysis Methodology



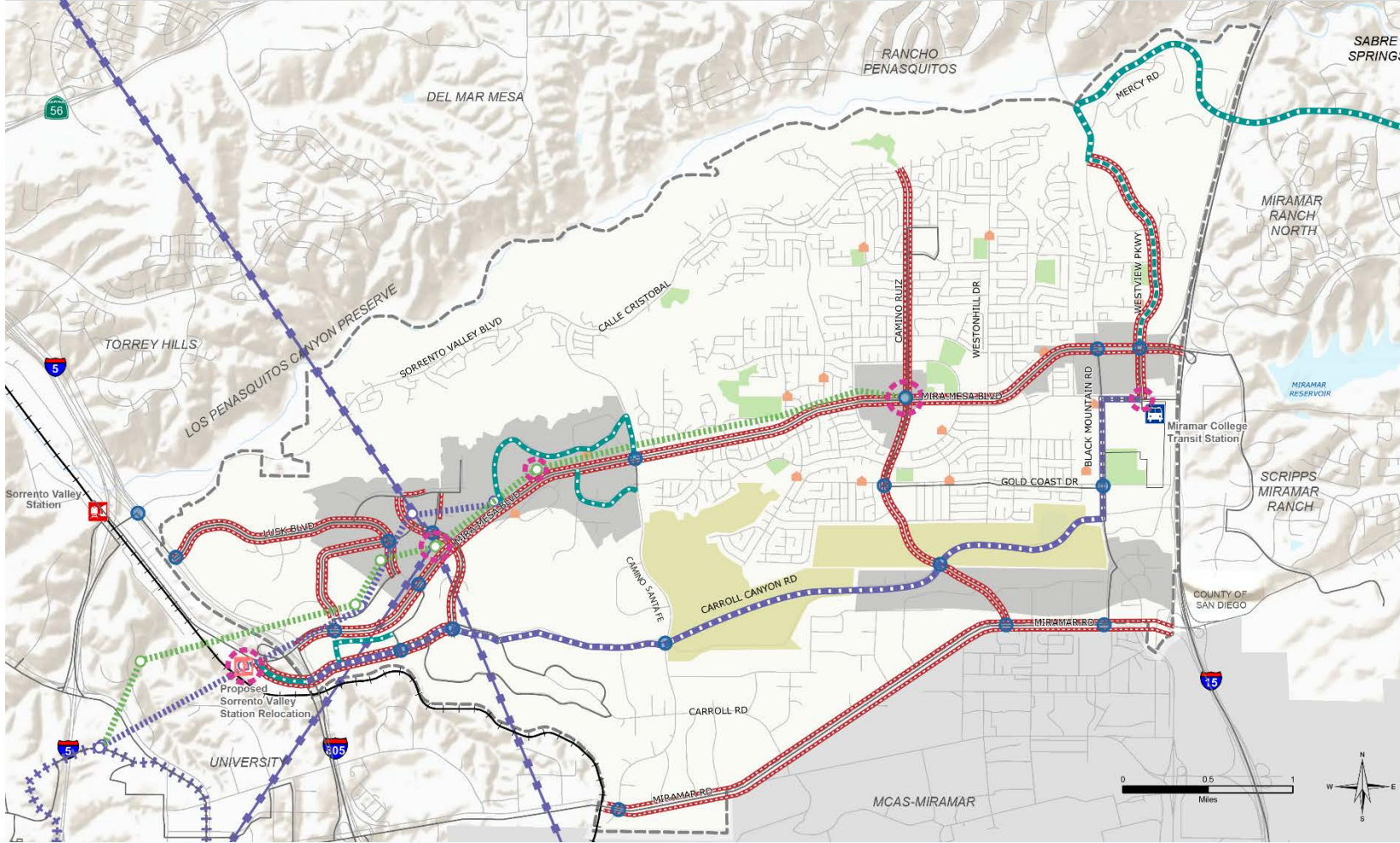
Travel Time Data

- Time to get from A to B



Source: Metropolitan Transit System (MTS)

Proposed Transit Network



LEGEND

- City and County Parks
- Focus Areas
- Schools
- Future Development

Planned Improvements

- New Rapid Transit
- New Aerial Skyway Alignment / New Aerial Skyway Stop
- Mid-Coast Trolley Extension
- Commuter Rail

Existing Transit

- Existing Transit Route
- Light Rail / Commuter Rail

Recommended Improvements

- New Transit Line / Modification
- Flexible Lane
- Modified Aerial Skyway Alignment / Additional Aerial Skyway Stop
- Transit Signal Priority
- Mobility Hub Location

Proposed Transit Network Highlights



MOBILITY HUBS

Potential Locations:

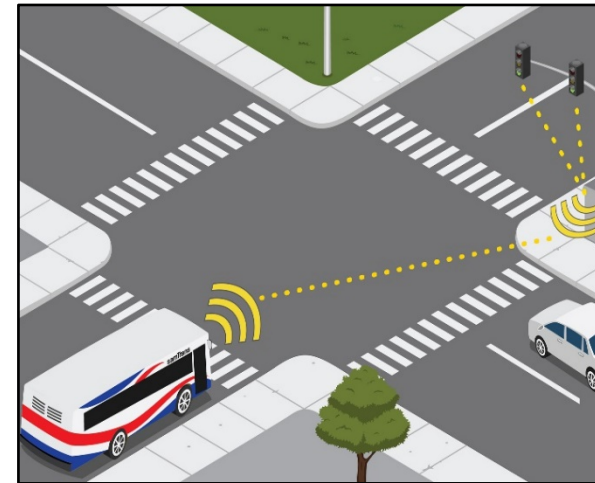
- Mira Mesa Blvd / Camino Ruiz Intersection
- Sorrento Valley Transit Station



FLEX LANES

Potential Locations:

- Mira Mesa Blvd
- Miramar Road



TRANSIT SIGNAL PRIORITY

Potential Locations:

- Mira Mesa Blvd & Camino Ruiz
- Carroll Canyon Road & Camino Santa Fe

Proposed Transit Network: Travel Times



Mira Mesa Boulevard: Future Vehicle Network vs. Future Transit Network

Mira Mesa Boulevard (I-805 to I-15)										
Direction	Future Vehicle Travel Times				Future Transit Travel Times					
	Recommended (min)		Alternative (min)		Route 237/BRT (min)		Route 921 (min)		Route 110 (min)	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
EB	21	34	20	29	21	20	27	26	28	27
WB	36	20	29	19	20	24	26	30	27	31

21 - 36 mins

19 – 29 mins

20 - 24 mins

26 – 30 mins

27 – 31 mins

Source: Synchro 11 Travel Time Run

Pedestrian Analysis Methodology

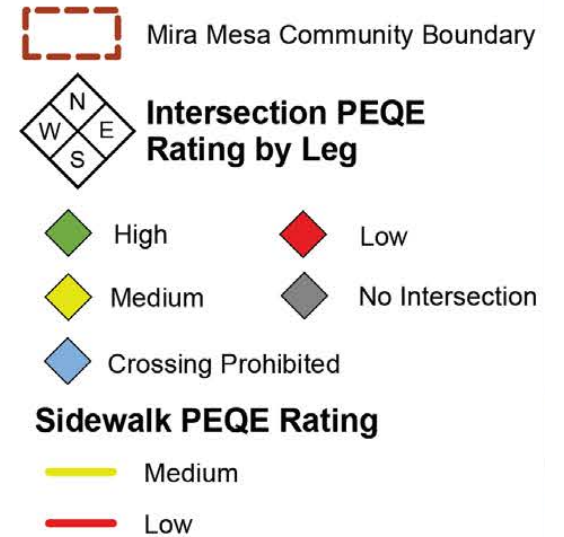
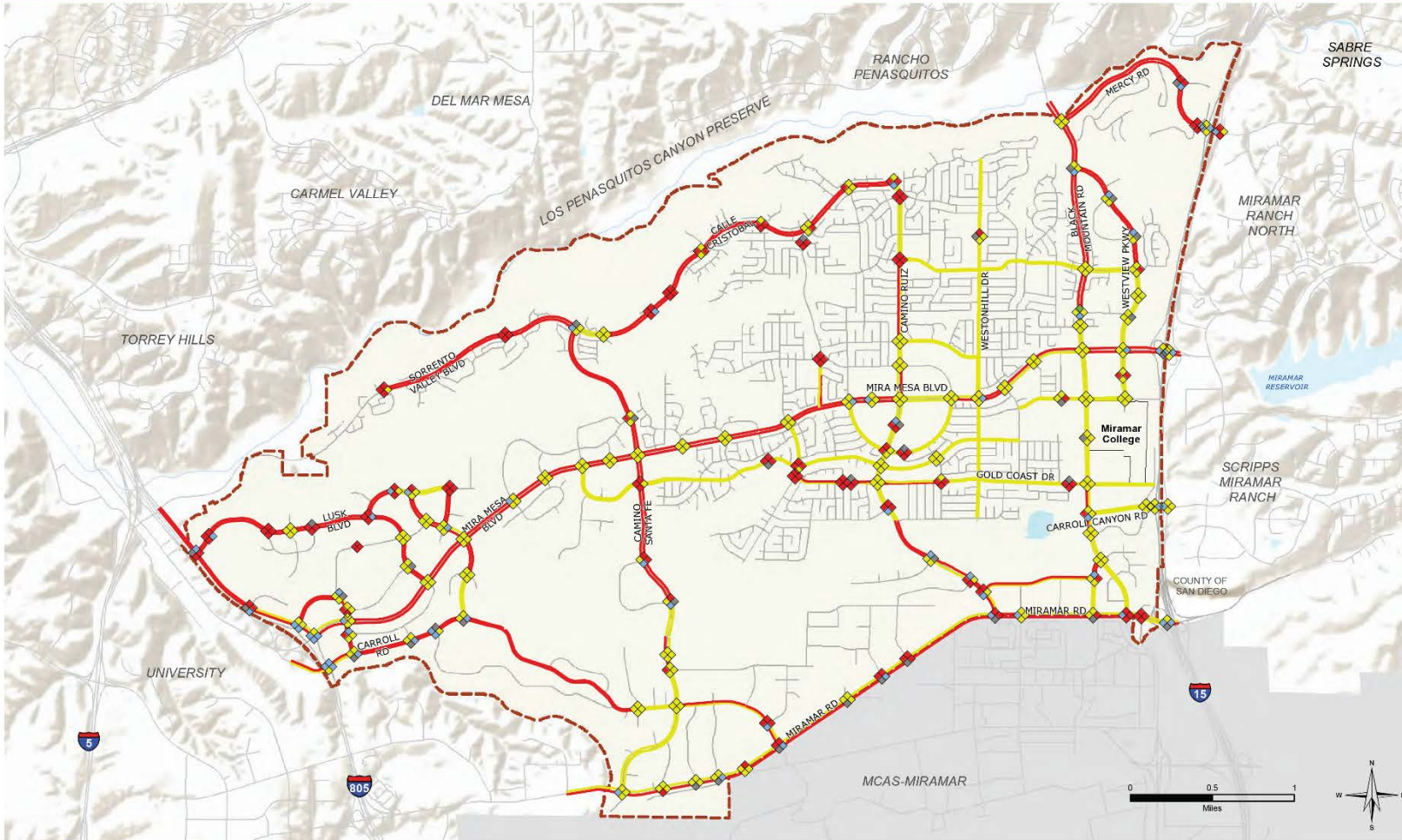


Pedestrian Environment Quality Evaluation (PEQE)

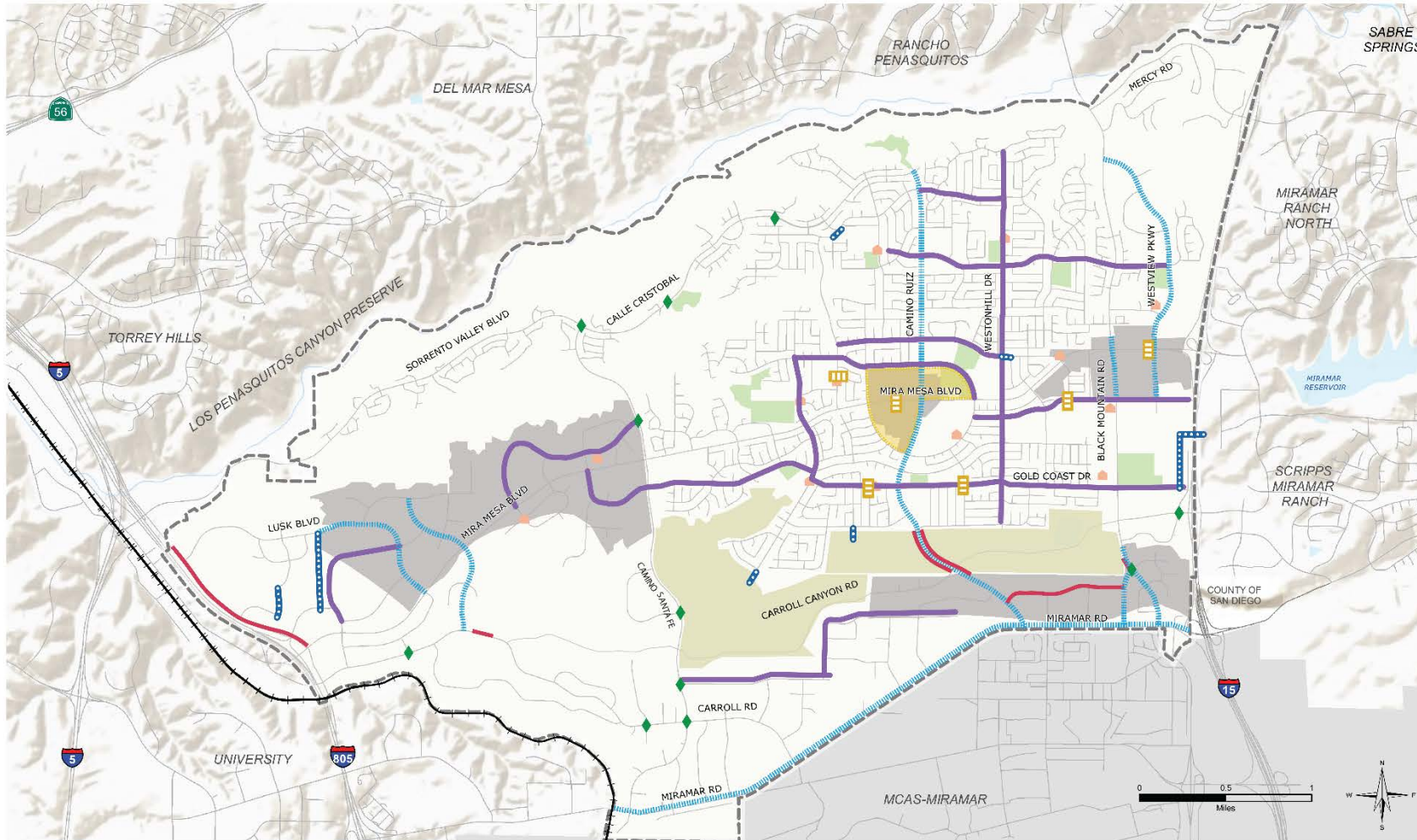
- Lighting
- Buffer Distance (between pedestrian and vehicle)
- Clear Pedestrian Zones
- Speed Limits
- ADA Curb Ramps
- Crossing Distance
- Visibility
- Traffic Control



Existing PEQE Analysis Results



Proposed Pedestrian Improvements



LEGEND

- Mira Mesa Community Plan Boundary
- Schools
- Parks
- Focus Areas
- Future Development

Planned Improvements

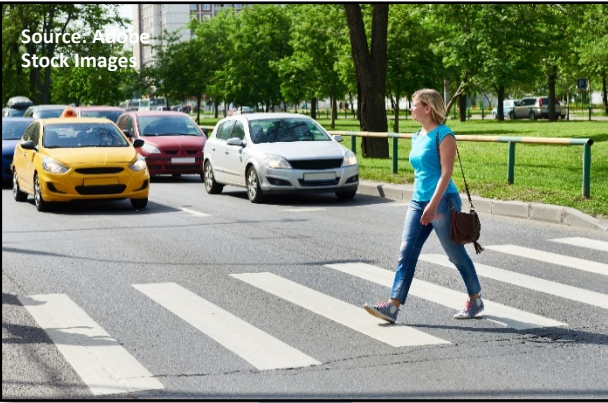
- Mayor's Vision Zero Intersection

Recommended Improvements

- Pedestrian Path/Bridge
- Enhanced Ped Crossing
- Construct Missing/Asphalt Sidewalk
- Traffic Calming Enhancements
- Enhanced Pedestrian Environment
- Pedestrian-Oriented Area

*Enhance All Signalized Intersections with high visibility crosswalks and pedestrian countdown timers.

Proposed Pedestrian Network Highlights



HIGH VISIBILITY CROSSWALKS

Continental striping alerts oncoming vehicles of pedestrians

Potential Locations:

All intersections in Mira Mesa
Community Boundary



LEAD PEDESTRIAN INTERVAL SIGNALS

3-10 seconds of advance walk time for pedestrians before vehicles movement

Potential Locations:

All intersections with high pedestrian demand



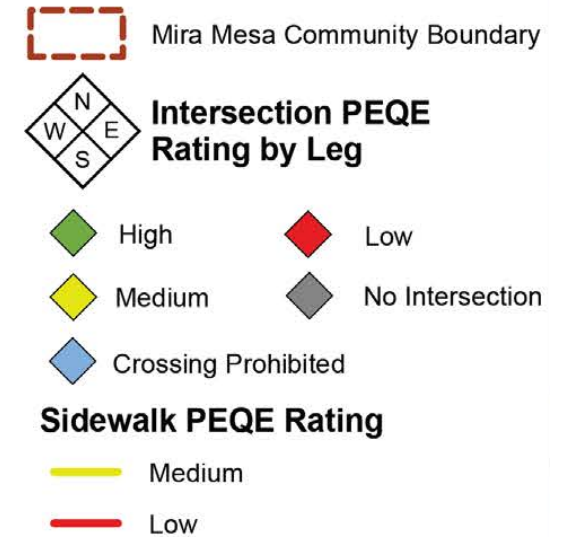
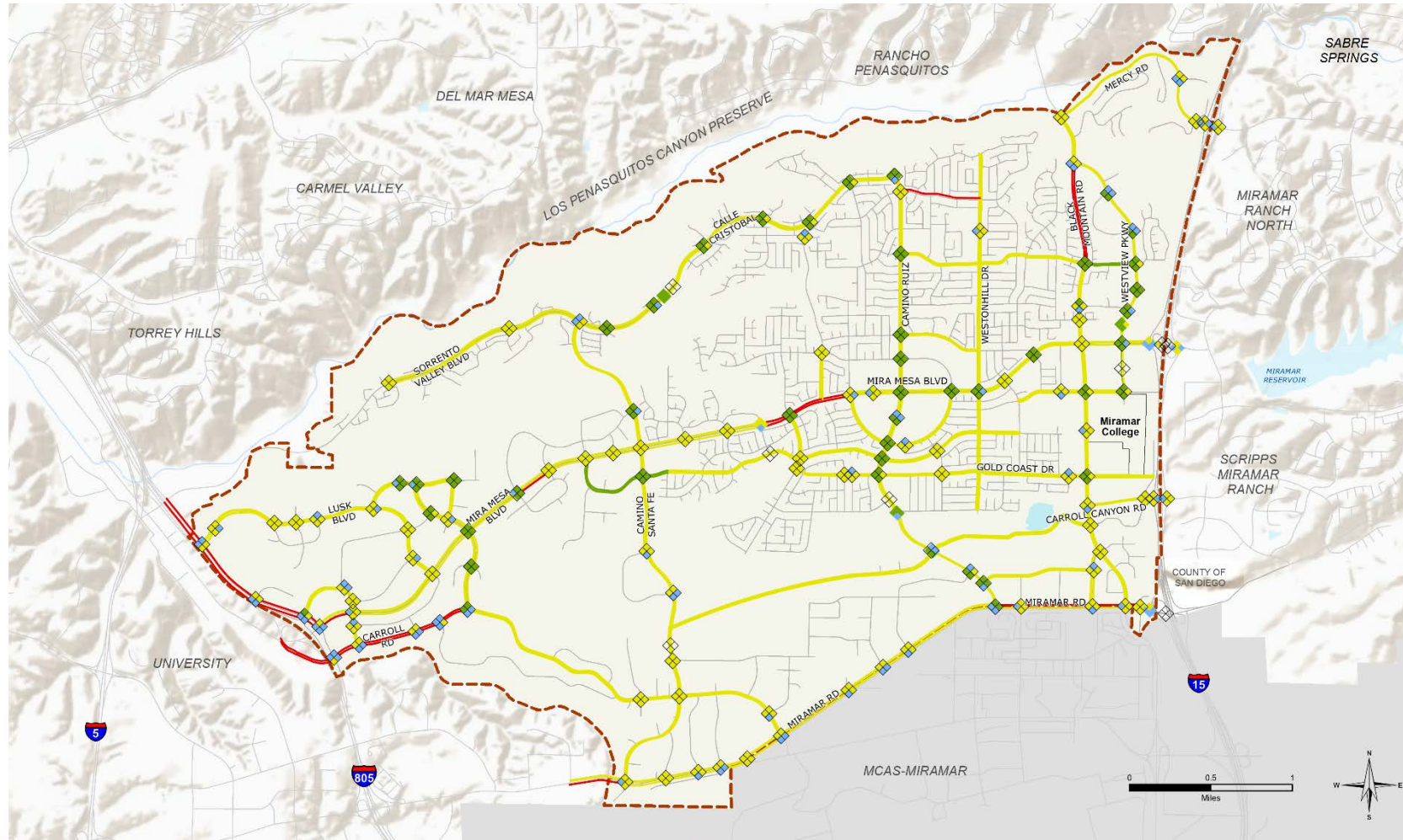
TRAFFIC CALMING

Reduce vehicle travel speeds to improve both vehicular and pedestrian safety

Potential Locations:

- Westons Hill Drive
- Gold Coast Drive
- Aquarius Drive

Proposed PEQE Analysis Results



Proposed Pedestrian Network

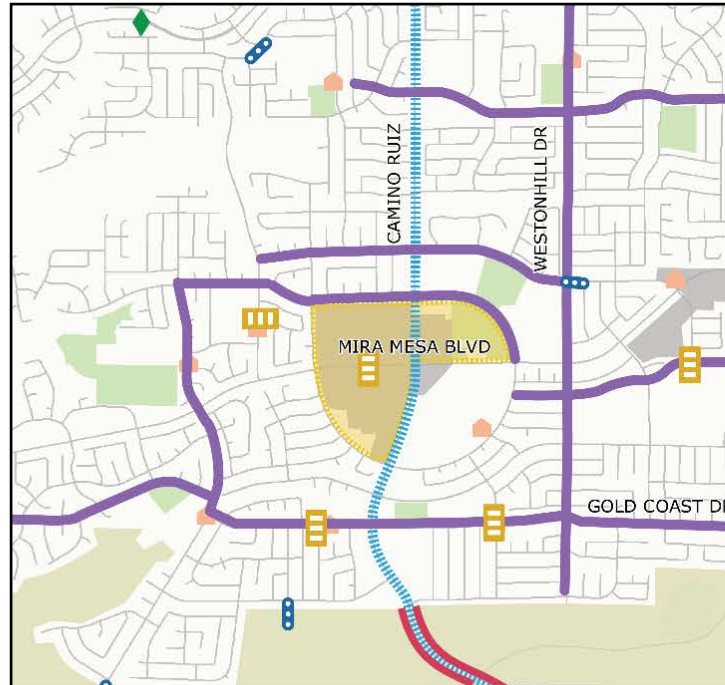


Mira Mesa “Community Core”

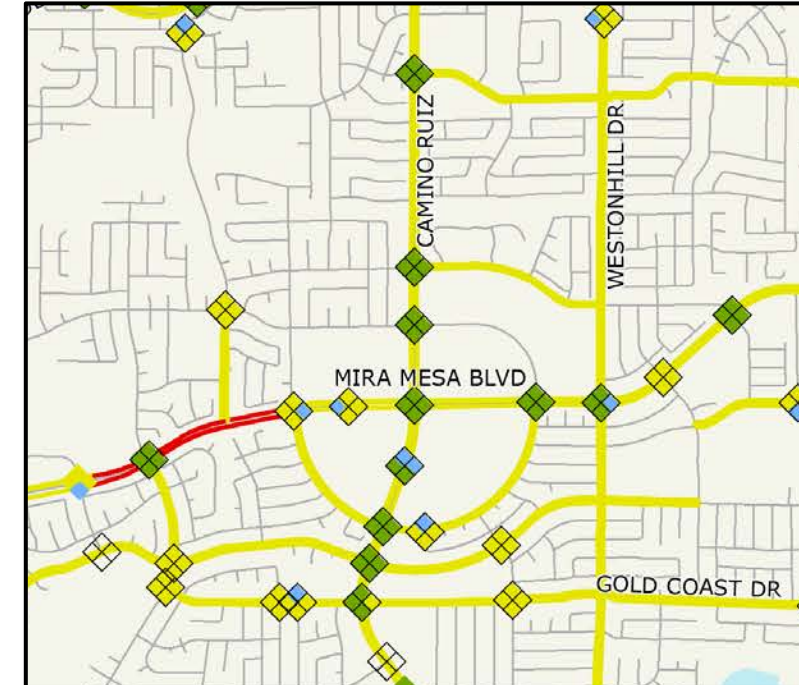
Existing PEQE Analysis



Proposed Pedestrian Improvements



Proposed PEQE Analysis



PEQE Analysis Results Comparison



Intersections		
PEQE Score	Existing	Proposed
	%	%
High	<1%	30%
Medium	59%	57%
Low	31%	<1%
Prohibited	10%	13%

Roadway Segments		
PEQE Score	Existing	Proposed
	%	%
High	0%	10%
Medium	46%	57%
Low	54%	33%

BLTS Methodology

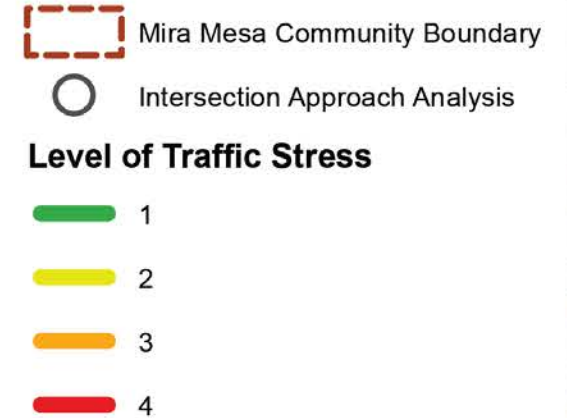
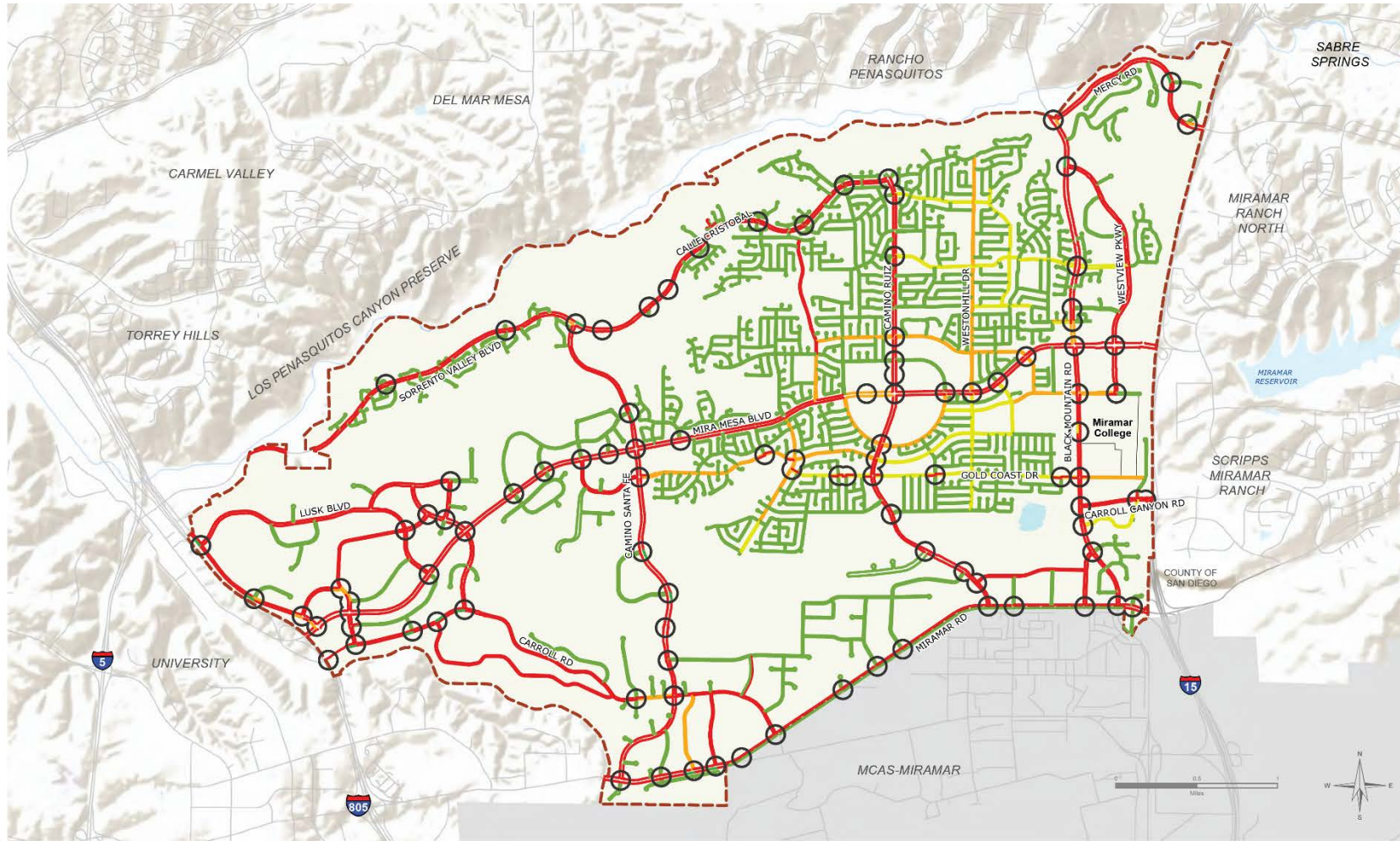


Bicycle Level of Stress (BLTS) Analysis

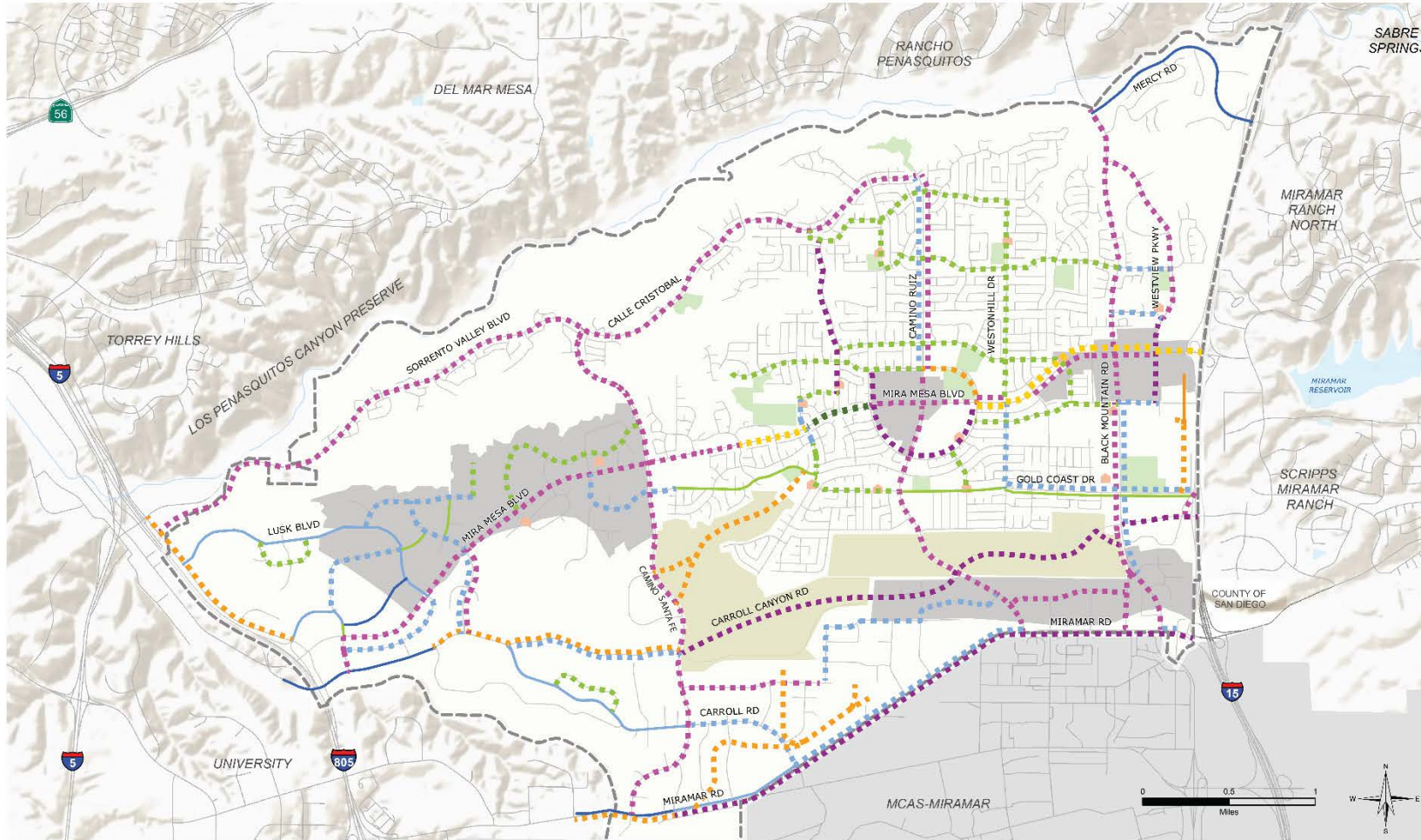
- Bicycle facility classification (I, II, III, IV)
- Speed Limit
- Number of travel lanes
- Bike Lane Width
- Parking Lane Width
- Bike Lane Blockage



Existing BLTS Analysis Results



Proposed Bicycle Network



LEGEND

- Mira Mesa Community Plan Boundary
- City and County Parks
- Focus Areas
- Schools
- Future Development

Existing Bicycle Facilities to Remain

- Buffered Bicycle Lane
- Standard Bicycle Lane
- Bicycle Route

Proposed Bicycle Facilities

- Bicycle Trail / Multi-Use Path
- Shared Use Path (one-way)
- Buffered Bicycle Lane
- Bicycle Boulevard*
- Shared Bus/Bike Lane
- Separated Bikeway / Cycle Track (two-way)
- Separated Bikeway / Cycle Track (one-way)

Proposed Bicycle Network Highlights



CLASS I

Multi-Use Path

Exclusive right-of-way for bicyclists and pedestrians, away from the roadway



CLASS II

Buffered Bike Lane

Buffered horizontal separation from adjacent traffic and on-street parking



CLASS III

Bicycle Route or Boulevard

Shared routes for bicyclists and drivers, in typical areas with low vehicular volumes

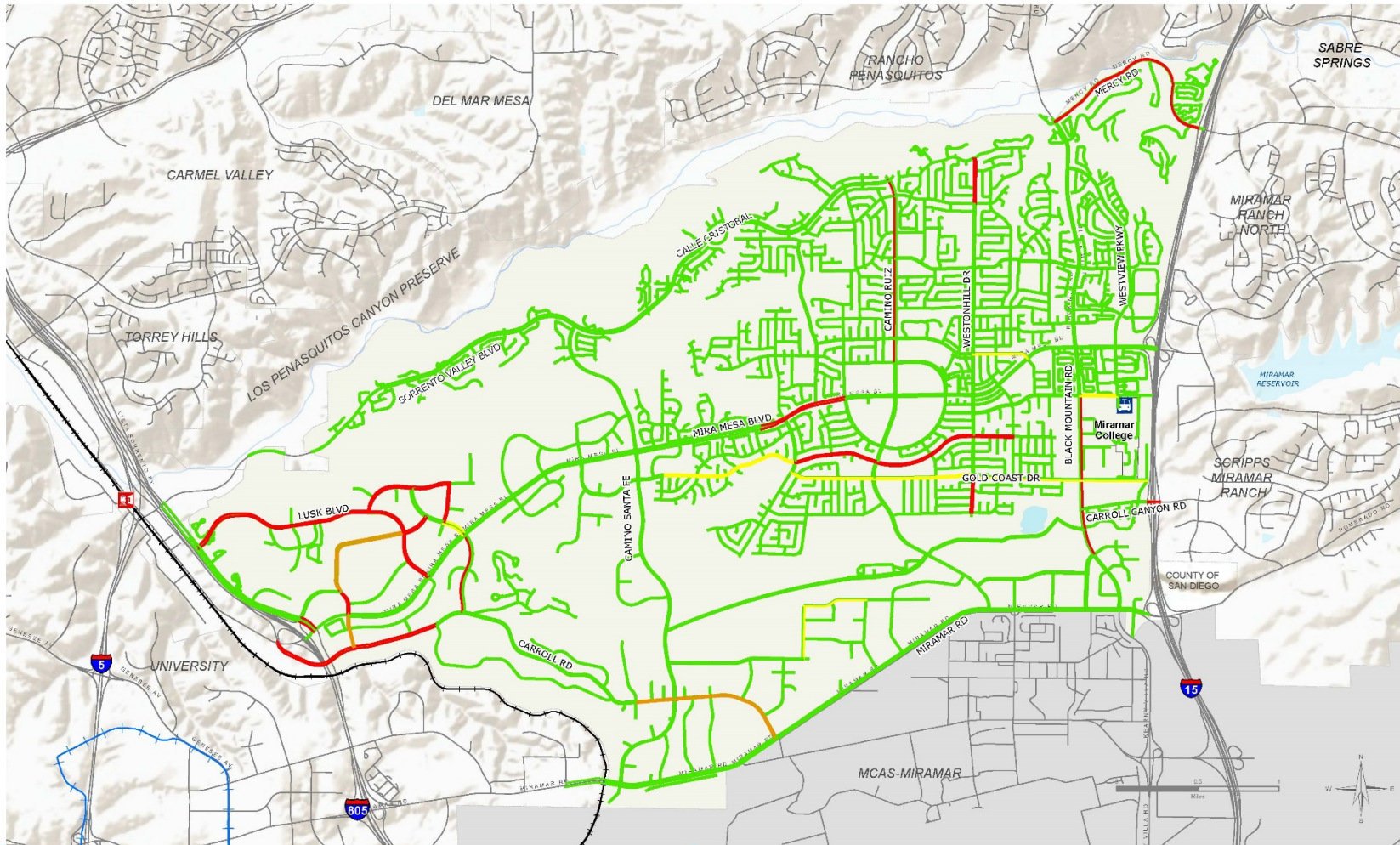


CLASS IV

Separated Bikeway or Cycle Track

Buffered horizontal separation and vertical protection from adjacent traffic and on-street parking

Proposed BLTS Analysis Results



Level of Traffic Stress

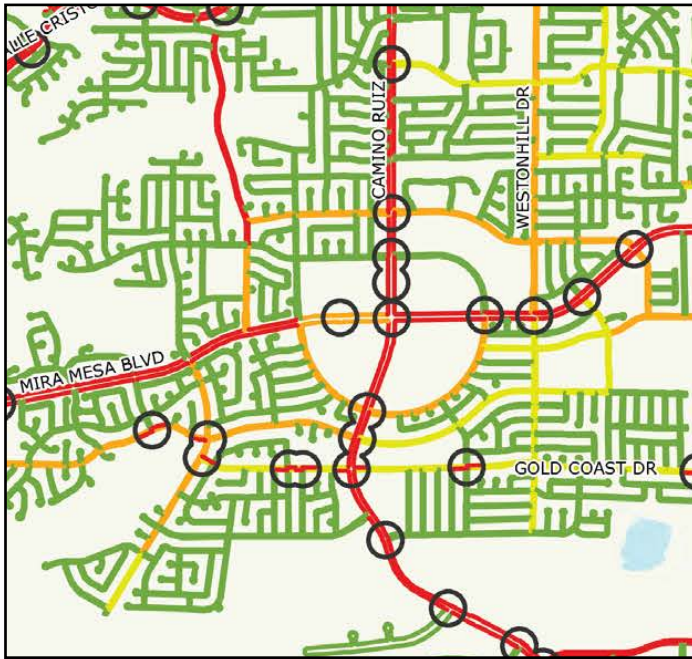


Proposed Bicycle Network



Mira Mesa “Community Core”

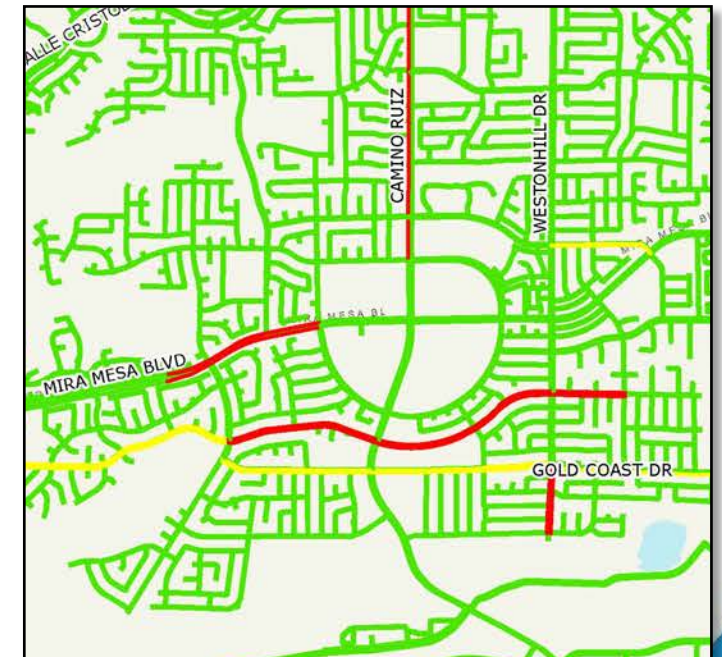
Existing BLTS Analysis



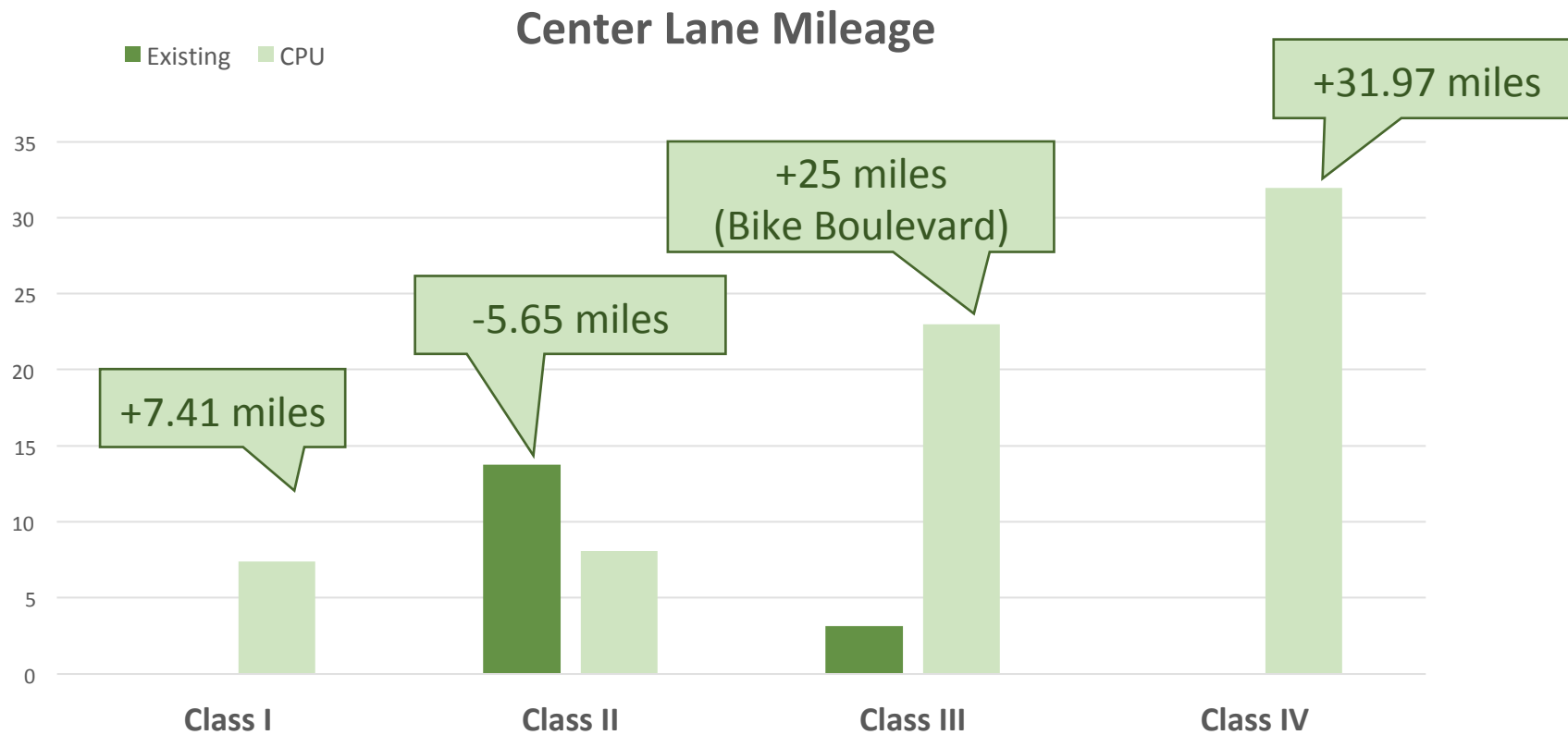
Proposed Bicycle Improvements



Proposed BLTS Analysis



Proposed Bicycle Network



BLTS Analysis Results Comparison



Major Roadway Segments		
BLTS Score	Existing	Proposed
	%	%
1	<1%	70.92%
2	13%	5.16%
3	14%	3.80%
4	73%	20.11%

Conclusion

- Land use and Mobility align
- Reduction of VMT/GHG per capita
- Mobility network moves more people
- More mobility options
 - Transit becomes a competitive option
 - Enhanced pedestrian and bicycle facilities
 - Vehicular travel times will be impacted



Next Steps

1. Receive Community Input (Winter 2021)
2. Finalize Analysis (Winter 2021)
3. Community Discussion Draft (Winter 2021)
4. Compile Mobility Tech Report (Spring 2022)
5. Draft EIR (Summer 2022)
6. Hearings (Fall 2022)

