

Attachment 3: Regional Spine Sheets

A Regional Spine Sheet was developed for each of the six regional spines identified in the North County study area. Each sheet provides a high-level overview of relevant projects from the project inventory related to the Regional Spine and describes how the regional spines interfaces with the nine strategy layers and other strategic anchors (i.e., mobility boulevard and mobility hub). Below is an overview of the elements that can be found across the Regional Spine Sheets.

Regional Spine Sheet User Guide

1 Strategic Anchor: Regional Spine
State Route 78

2 Regional Spine Context Map

3 Relevant North County CMCP Strategies

4 Corridor Description
 SR 78 serves as the primary east-west travel corridor in the study area between East County and the Coast. The corridor intersects all North County cities and unincorporated areas of San Diego County. Improvements to the corridor will enhance regional travel to and from North County by better connecting the I-5 and I-15 North/South corridors.

5 Regional Spine Segments

Segment	Interchange	Length (Miles)
Coast I-5 to Miramar	9	6.0
The "S" Miramar Dr to Las Posas	7	6.2
Isthmus Las Posas to Broadway	7	5.5
East Gateway (Broadway to San Marcos Rd)	1*	12.4
Total	34	30.1

6 Proposed Strategies

Strategy	Segment 1	Segment 2	Segment 3	Segment 4
Managed Lanes (ML)	Planned (I-5 to I-15)			
Connectors/Ramps	1 Planned Freeway Connector	N/A	1 Proposed Direct Access Ramp (DAR) 1 Planned ML Connector	N/A
Smart Intersections	12	12	6	11
Active Transportation Crossings	10	2	1	12
High-Frequency Transit	N/A	N/A	Proposed Commuter Express (between Riverside and southern activity centers)	
TSMO/ICM	Integrated Corridor Management (ICM) with Communication Backbone			
TSMO: Connected Ramps	12 on-ramp ramps 36 signals	12 on-ramp ramps 36 signals	6 on-ramp ramps 27 signals	N/A
Reconnecting Communities	3 Overpasses 2 Underpasses	4 Overpasses 3 Underpasses	4 Overpasses 3 Underpasses	N/A

7

North County CMCP June 2023 | SR 78 (FINAL) | 1

- Regional Spine Name** – Name of the identified regional spine
- Regional Spine Context Map** – Identifies the location of the regional spine, unique segments, and the spine's relation to the surrounding regions
- Relevant North County CMCP Strategies** – Highlights in green and a yellow outline which of the following strategies the regional spine supports:

Strategy Layer Icon	Strategy Layer
	Smart Arterials and Intersections
	Regional "SMART" Highway Capacity Management
	Active Transportation Network
	Reconnecting Communities
	Mobility as a Service
	High-Frequency Core, Rapid, and Commuter Services
	SPRINTER Improvements
	TSMO/ICM
	Complementary Programs

- Corridor Description** – Describes the corridor in relation to the subregion
- Regional Spine Photos** – Existing image of the regional spine or a photo of a proposed strategy solution
- Regional Spine Segment and Quick Info** – Outlines key information such as grade separations/interchanges and length for each regional spine segment
- Proposed Strategies** – Identifies proposed strategies for the regional spine by segment
- Highlighted Program and Projects** – Lists the projects and programs along the mobility boulevard with the following information for each:
 - type,
 - description,
 - location
 - primary strategy layer applicable,
 - intersection with mobility hub and regional spine (checkmark means yes), and
 - regional spine segment that is related (checkmark means yes).

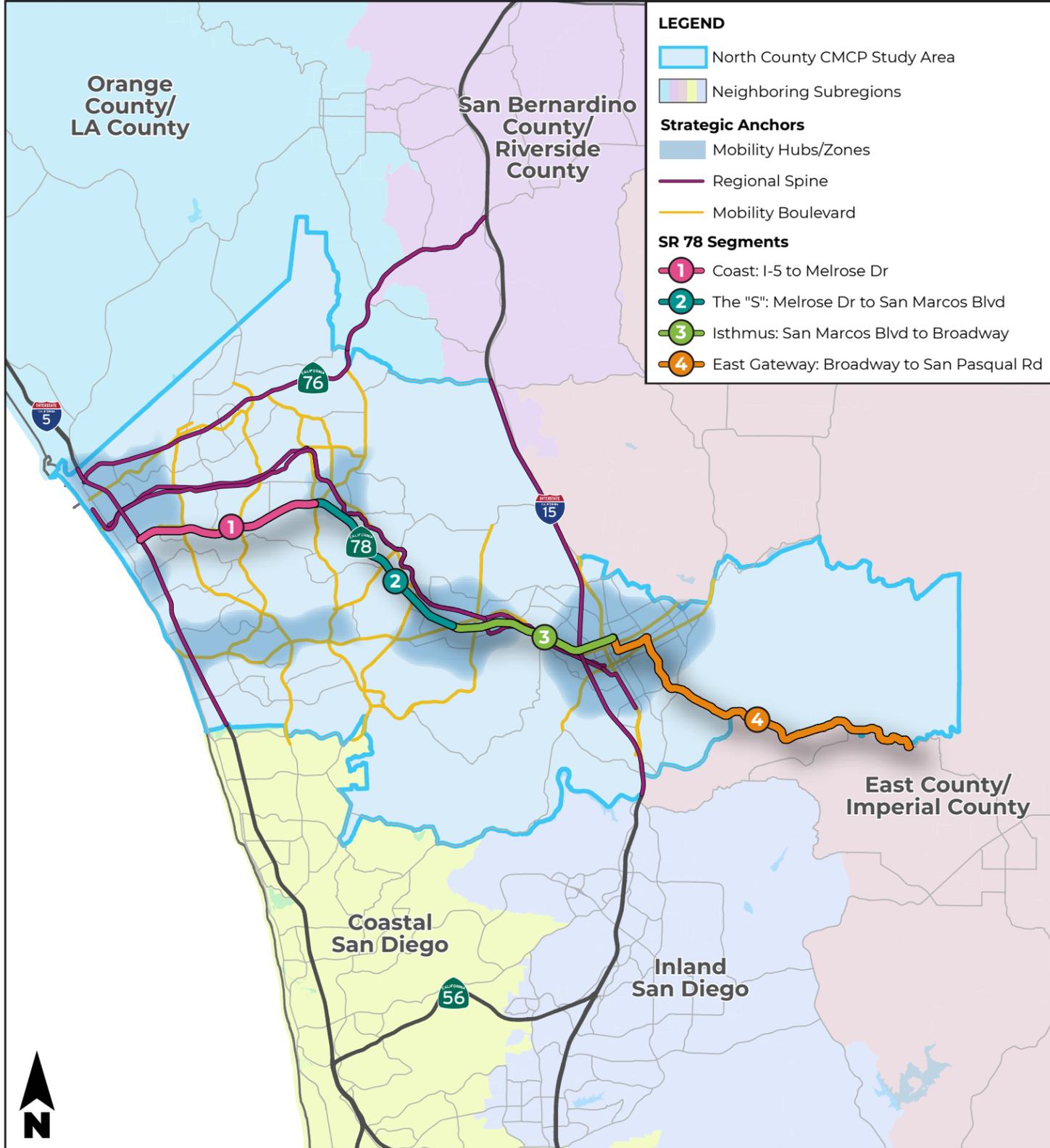
8 Highlighted Projects and Programs

Type	Description	Location	Primary Strategy	Increase Access to Mobility Hub	Support/Support Mobility Boulevard	Segment 1	Segment 2	Segment 3	Segment 4
Freeway	SR 78 South Interchange Spine - Intersection with I-5 and I-15, and connect the system and access	SR 78		<input checked="" type="checkbox"/>					
TSMO	SR 78 (MIDM)	SR 78		<input checked="" type="checkbox"/>					
Managed Lanes	SR 78 Managed Lanes between College Blvd and Twin Oaks Valley Blvd	SR 78		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Interchange Improvement	Interchange capacity and engineering improvements	Woodland Interchange		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Interchange Improvement	Woodland Interchange at general and utility improvements, and construct on-fundings	Woodland Interchange		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Connectors	Build managed lane direct connectors between SR 78 and I-5, managed lanes to College Blvd	SR 78 and I-5		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interchange Improvement	Analysis interchanges to improve and enhance traffic operations	SR 78 and Miramar Dr/Brussels Dr		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Active Transportation	Improve bike and pedestrian facilities at 25 crossings to enhance access to the coast and inland communities	SR 78		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managed Lane Connectors	Build managed lane direct connectors between SR 78 and I-5, managed lanes to Twin Oaks Valley Blvd	SR 78 and I-5		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Express	Commuter express route between Miramar (Riverside to San Marcos Rd) and San Marcos Blvd	I-5/SR 78/San Marcos Blvd (Riverside to San Marcos Rd) and San Marcos Blvd		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Commuter Express	Commuter express service along I-5/SR 78/San Marcos Blvd to connect subregion to Rainey Valley employment center	I-5/SR 78/San Marcos Blvd (Miramar to El Camino Real) and San Marcos Blvd		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Managed Lane Connectors	Build managed lane direct connectors between SR 78 and I-5 to improve connectivity and traffic flow on and between the interchanges	SR 78 and I-5		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TSMO	Integrated Corridor Management (ICM)	SR 78		<input checked="" type="checkbox"/>					
Interchange Improvement	Woodland Interchange at general and utility improvements, and construct on-fundings	SR 78 and Woodland Parkway		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Complementary Program	Host corridor for green infrastructure to support mobility innovation such as smarting vehicle technologies	SR 78		<input checked="" type="checkbox"/>					
Interchange Improvement	Construct a new interchange at I-5/SR 78	SR 78 and Simba Road		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interchange Improvement	Rebuild interchange to improve traffic management and safety	SR 78 and Norda		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

North County CMCP June 2023 | SR 78 (FINAL) | 2

State Route 78

Regional Spine Context Map



LEGEND

- North County CMCP Study Area
- Neighboring Subregions
- Strategic Anchors**
 - Mobility Hubs/Zones
 - Regional Spine
 - Mobility Boulevard
- SR 78 Segments**
 - 1 Coast: I-5 to Melrose Dr
 - 2 The "S": Melrose Dr to San Marcos Blvd
 - 3 Isthmus: San Marcos Blvd to Broadway
 - 4 East Gateway: Broadway to San Pasqual Rd

Relevant North County CMCP Strategies

Corridor Description

SR 78 serves as the primary east-west travel corridor in the study area between East County and the Coast. The corridor intersects all North County cities and unincorporated areas of San Diego County. Improvements to the corridor will enhance regional travel to and from North County by better connecting the I-5 and I-15 North/South corridors.



Regional Spine Segments	Interchange (#)	Length (Miles)
1 Coast: I-5 to Melrose Dr	9	6.0
2 The "S": Melrose Dr to Las Posas	7	6.2
3 Isthmus: Las Posas to Broadway	7	5.5
4 East Gateway: Broadway to San Pasqual Rd	11*	12.4
Total	34	30.1

Note: *Interchange number for East Gateway segment represents number of signalized intersections.

Proposed Strategies

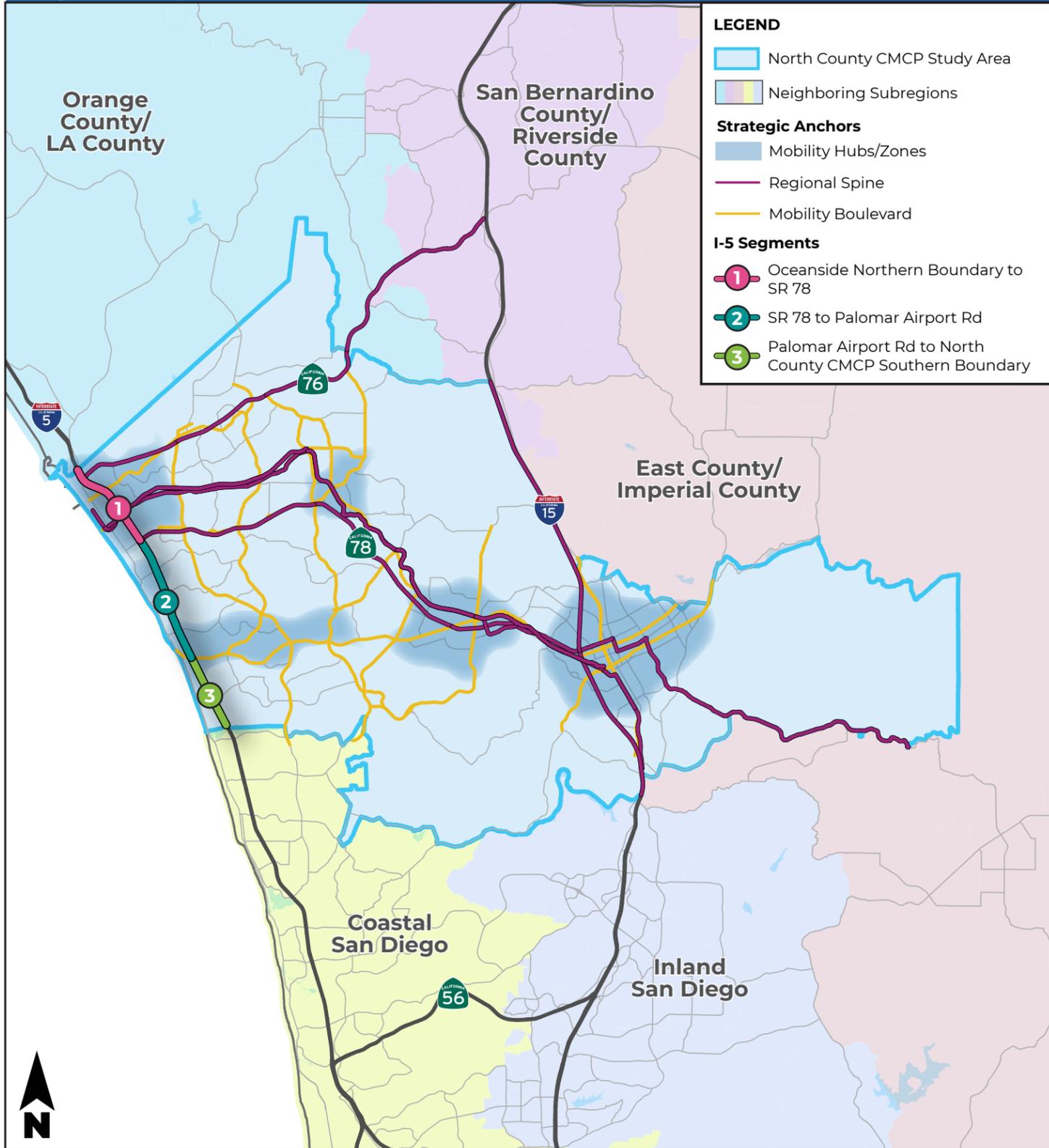
Strategy	Segment 1	Segment 2	Segment 3	Segment 4
Managed Lanes (ML)	Planned (I-5 to I-15)			
Connectors/Ramps	1 Planned Freeway Connector	N/A	1 Proposed Direct Access Ramp (DAR) 1 Planned ML Connector	N/A
Smart Intersections	12	12	6	11
Active Transportation: Crossings	10	12	11	32
High-Frequency Transit	N/A	N/A	Proposed Commuter Express (between Riverside and southern activity centers)	
TSMO: ICM	Integrated Corridor Management (ICM) with Communication Backbone			
TSMO: Connected Ramps	12 on-/off-ramps 36 signals	12 on-/off-ramps 38 signals	6 on-/off-ramps 27 signals	N/A
Reconnecting Communities	3 Overpasses 2 Underpasses	4 Overpasses 3 Underpasses	4 Overpasses 3 Underpasses	N/A

State Route 78

Highlighted Projects and Programs

Type	Description	Location	Primary Strategy	Increase Access to Mobility Hub	Supplement/Support Mobility Boulevard	Segment 1	Segment 2	Segment 3	Segment 4
Freeway	SR 78 Smart Intersection Systems - improve ramp meters, signal controllers, and connect the system as a whole	SR 78		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
TSMO	SR 78 (ATDM)	SR 78		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Managed Lanes	SR 78 Managed Lanes between College Blvd and Twin Oaks Valley Rd	SR 78		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Interchange Improvements	Interchange capacity and metering improvements	Woodland Interchange		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Interchange Improvements	Woodland interchange alignment and safety improvements, and construction funding	Woodland Interchange		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Connectors	Build managed lane direct connectors between SR 78 and I-5; managed lanes to College Boulevard	SR 78 and I-5		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interchange Improvement	Analyze interchanges to improve and enhance traffic operations	SR 78 and Mar Vista Dr/Emerald Dr		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Active Transportation	Improve bike and pedestrian facilities at 65 crossings to enhance access to the coast and inland communities	SR 78		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managed Lane Connectors	Build managed lane direct connectors between SR 78 and I-5; managed lanes to Twin Oaks Valley Road	SR 78 and I-5		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Commuter Express	Commuter express route between Riverside (Temecula) and North County at 15-minute frequencies	I-15/SR 78/San Marcos Blvd (Riverside to El Camino Real and San Marcos Blvd)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Commuter Express	Commuter express service along I-15/SR 78/San Marcos Blvd to connect subregion to Kearny Mesa employment center	I-15/SR 78/San Marcos Blvd (Kearny Mesa to El Camino Real and San Marcos Blvd)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Managed Lane Connectors	Build managed lanes direct connectors between SR 78 and I-15 to improve connectivity and traffic flow on and between the two corridors	SR 78 and I-15		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
TSMO	Integrated Corridor Management (ICM)	SR 78		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Interchange Improvement	Woodland interchange alignment and safety improvements, and construction funding	SR 78 and Woodland Parkway		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Complementary Program	Pilot corridor for green/sustainable infrastructure to support mobility innovation such as emerging-vehicle technologies	SR 78		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Interchange Improvement	Construction of a new interchange at the Smilax undercrossing	SR 78 and Smilax Road		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interchange Improvement	Nordahl interchange adaptive traffic management solutions	SR 78 and Nordahl		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Regional Spine Context Map



Relevant North County CMCP Strategies



Corridor Description

I-5 serves as the north-south corridor for the San Diego region, connecting the region to the counties of Orange and Los Angeles as well as communities along the United States–Mexico border. For the CMCP, the regional spine is only the segments identified in the study area. The corridor provides regional circulation to neighborhoods in the cities of Oceanside and Carlsbad. The North Coast Corridor (NCC) Public Works Plan/Transportation and Resource Enhancement Program (PWP/TREP), has been completed for I-5 and was reviewed to identify previously planned rail, highway, transit, bicycle, and pedestrian improvements that will support North County mobility trips.



Regional Spine Segments	Interchanges (#)	Length (Miles)
1 Oceanside Northern Boundary to SR 78	6	3.1
2 SR 78 to Palomar Airport Rd	5	4.2
3 Palomar Airport Rd to CMCP Southern Boundary	1	2.5
Total	12	9.8

Proposed Strategies

Strategy	Segment 1	Segment 2	Segment 3
Managed Lanes	Planned Interregional Corridor Managed Lanes		
Connectors/Ramps	1 Planned Freeway Connector	N/A	N/A
Smart Intersections	5	8	2
Active Transportation: Crossings	11	9	2
TSMO: Communication	Communication Backbone		
TSMO: Signal Coordination	2 ICM Signal Communication 4 Transit Signal Priority	N/A	N/A
Reconnecting Communities	7 Overpasses 2 Underpasses	5 Overpasses 3 Underpasses	1 Overpass

Highlighted Projects and Programs

Type	Description	Location	Primary Strategy	Increase Access to Mobility Hub	Supplement/Support Mobility Boulevard	Segment 1	Segment 2	Segment 3
Active Transportation	Improve pedestrian and bicycle facilities	I-5 and Mission Ave Bridge		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Active Transportation	Improve bicycle and pedestrian facilities at 29 locations across I-5 to enhance access to the coast	I-5		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Freeway/Managed Lane Connectors	Build freeway connectors between SR 78 and I-5 to improve connectivity and traffic flow on and between the two corridors	SR 78 and I-5		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overpass/Underpass	Improve conditions at 13 overpasses and 5 underpasses (E.g., protected bike facilities, sidewalk widening, and lighting improvements)	I-5		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Relevant Projects From I-5 North Coast Corridor Public Works Plan

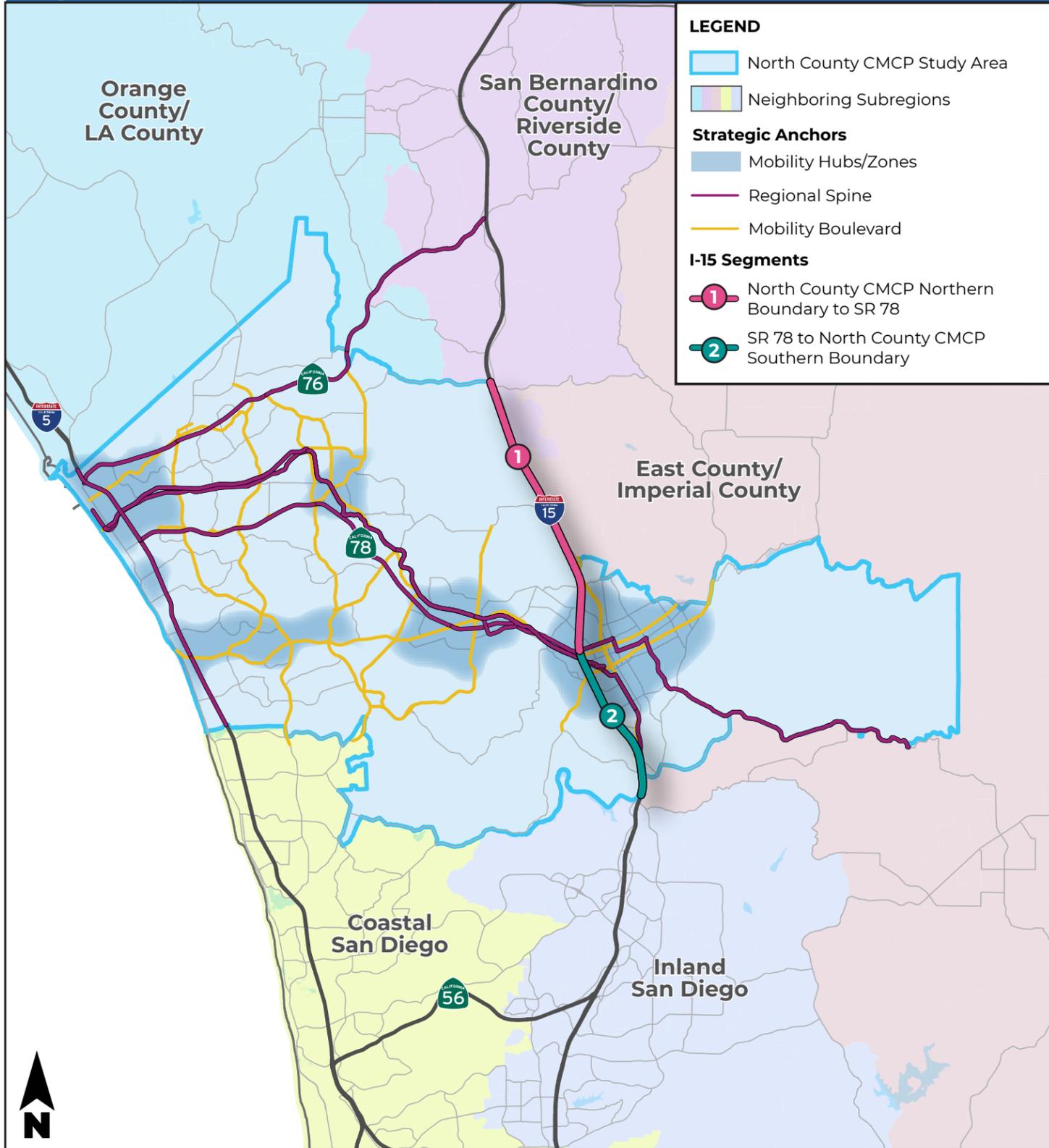
The following projects from the I-5 North Coast Corridor Public Work Plan align with the projects proposed as part of the CMCP.

Type	Description	Location
Active Transportation	Coastal Rail Trail: Construct approximately 0.9 mile of dedicated bicycle facility from Poinsettia Station to Palomar Airport Road	Carlsbad
Active Transportation	Coastal Rail Trail: Construct approximately 0.5 mile of dedicated bicycle facility from Palomar Airport Road to Cannon Road	Carlsbad
Active Transportation	Coastal Rail Trail: Construct approximately 1.2 miles of dedicated bicycle facility from Cannon Road to Tamarack Avenue	Carlsbad
Active Transportation	I-5 North Coast Bike Trail: New facility that would run the entire length of the NCC, roughly parallel to the highway	Carlsbad/ Oceanside
Active Transportation	Upgrade pedestrian and bicycle facilities along local roads that cross I-5 in the City of Carlsbad and City of Oceanside as indicated in Section 4.4 of the PWP	Carlsbad/ Oceanside
Community Enhancement	Construct a trail along the west side of I-5 from La Costa Avenue to Avenida Encinas, crossing Batiquitos Lagoon as a suspended facility under the I-5 bridge structure	Carlsbad
Community Enhancement	Improve the existing park-and-ride facility to include new parking spaces and landscaping	Carlsbad
Community Enhancement	Construct a trail connection between the proposed Batiquitos Lagoon crossing and the existing trail on the east side of I-5	Carlsbad
Community Enhancement	Construct a trail along the east side of I-5 crossing Agua Hedionda Lagoon as a suspended facility under the I-5 bridge structure	Carlsbad
Community Enhancement	Construct new Class II bicycle lanes and widen sidewalks in both directions	Carlsbad
Community Enhancement	Construct a new grade-separated crossing of the LOSSAN rail corridor for bicycles and pedestrians at Chestnut Avenue in Carlsbad	Carlsbad
Community Enhancement	Construct new Class II bicycle lanes and 17-foot sidewalks at the replaced California Street overcrossing, to include landscaping elements and a pocket park at Moreno Way	Oceanside
Community Enhancement	Construct widened sidewalks and landscaping at the Oceanside Boulevard undercrossing, as well as enhanced safety fencing at the adjacent SPRINTER rail right-of-way	Oceanside
Community Enhancement	Construct new 17-foot sidewalks on each side of the rebuilt overcrossing, as well as widened sidewalks on Brooks Street east of the highway	Oceanside
Community Enhancement	Construct new widened sidewalks and Class II bicycle lanes at the replaced overcrossing, including realignment of the highway on and off-ramps to allow for signalized pedestrian crossings	Oceanside
Community Enhancement	Construct facilities to connect the existing community gardens at Civic Center Drive and North Weitzel Street (west of I-5) with new community garden plots to the east of I-5; Construct a paved trail and linear park from the east side of the overcrossing to Buena Street, and construct wider sidewalks on Buena and Santa Barbara Streets	Oceanside
Community Enhancement	Construct a 0.285-acre community open space park and/or community gardens adjacent to the Family Recovery Center on Horne Street	Oceanside
Community Enhancement	Construct a new parking area and trailhead east of the highway at the SR 76 interchange, including the removal of an obsolete highway ramp	Oceanside
Community Enhancement	Improve the existing sidewalk under I-5 north of the San Luis Rey River to include new ramps, lighting, and landscaping	Oceanside
Community Enhancement	Construct new Class II bicycle lanes and widen the existing eastbound sidewalk to 8 feet	Oceanside
Community Enhancement	Improve the existing undercrossing of the LOSSAN rail corridor located north of the San Luis Rey River at the west end of the Harbor Drive parking lot	Oceanside

Type	Description	Location
Highway Improvements	Two HOV/Express Lanes in each direction would be added from just north of Lomas Santa Fe Drive to Harbor Drive/Vandegrift Boulevard	Oceanside to Solana Beach
Highway Improvements	New or modified auxiliary lanes proposed for Poinsettia Lane to Palomar Airport Road (NB and SB weaving lanes)	Carlsbad
Highway Improvements	New or modified auxiliary lanes proposed for Palomar Airport Road to Cannon Road (extension SB between Cannon Road SB on-ramp to Palomar Airport Road SB off-ramp)	Carlsbad
Highway Improvements	New or modified auxiliary lanes proposed for Cannon Road to Tamarack Avenue (extension NB between Cannon Road NB on-ramp and Tamarack Avenue NB off-ramp; SB weaving lane)	Carlsbad
Highway Improvements	New or modified auxiliary lanes proposed for Carlsbad Village Drive to SR 78 (extension SB only)	Carlsbad
Highway Improvements	New or modified auxiliary lanes proposed for Las Flores Drive to SR 78 (NB deceleration lane only)	Carlsbad
Highway Improvements	New or modified auxiliary lanes proposed for SR 78 to Cassidy Street (SB weaving lane; an existing SB auxiliary-weaving-lane would extend to the new SB auxiliary-weaving-lane that would begin at Oceanside Boulevard SB on-ramp)	Oceanside
Highway Improvements	New or modified auxiliary lanes proposed for Cassidy Street to Oceanside Boulevard (extension of NB; SB weaving lane)	Oceanside
Highway Improvements	New or modified auxiliary lanes proposed for Oceanside Boulevard to Mission Avenue (NB and SB weaving lanes)	Oceanside
Highway Improvements	New or modified auxiliary lanes proposed for Mission Avenue to SR 76 (NB weaving only)	Oceanside
Highway Improvements	New or modified auxiliary lanes proposed for SR 76 to Harbor Drive (NB deceleration lane, extension SB)	Oceanside
Interchange Improvements	La Costa Avenue to NB I-5: From 1 SOV and 1 HOV to 2 SOV and 1 HOV	Carlsbad
Interchange Improvements	WB Palomar Airport Road to SB I-5: From 1 SOV and 1 HOV to 2 SOV and 1 HOV	Carlsbad
Interchange Improvements	Tamarack Avenue to NB I-5: From 1 SOV and 0 HOV to 2 SOV and 0 HOV	Carlsbad
Interchange Improvements	Carlsbad Village Dr to SB I-5: From 1 SOV and 0 HOV to 2 SOV and 0 HOV	Carlsbad
Interchange Improvements	Carlsbad Village Dr to NB I-5: From 1 SOV and 0 HOV to 2 SOV and 0 HOV	Carlsbad
Interchange Improvements	Las Flores Drive to SB I-5: From 1 SOV and 0 HOV to 2 SOV and 0 HOV	Carlsbad
Interchange Improvements	SR 78 to SB I-5: From 1 SOV and 0 HOV to 2 SOV and 0 HOV	Carlsbad/ Oceanside
Interchange Improvements	Remove EB SR 78 to NB I-5 Connector: From SOV and HOV to SOV and HOV	Carlsbad/ Oceanside
Interchange Improvements	Oceanside Boulevard to SB I-5: From 1 SOV and 1 HOV to 2 SOV and 1 HOV	Oceanside
Interchange Improvements	Oceanside Boulevard to NB I-5: From 2 SOV and 0 HOV to 1 SOV and 1 HOV	Oceanside
Interchange Improvements	Mission Avenue to SB I-5: From 1 SOV and 1 HOV to 2 SOV and 1 HOV	Oceanside
Interchange Improvements	Remove EB Mission Ave to SB I-5 Ramp: From SOV and HOV to SOV and HOV	Oceanside
Interchange Improvements	Mission Avenue to NB I-5: From 1 SOV and 0 HOV to 2 SOV and 1 HOV	Oceanside
Interchange Improvements	SR 76 to SB I-5: From 2 SOV and 0 HOV to 2 SOV and 1 HOV	Oceanside

Type	Description	Location
Interchange Improvements	SR 76 to NB I-5: From 2 SOV and 0 HOV to 2 SOV and 1 HOV	Oceanside
Interchange Improvements	Remove NB I-5 to WB SR 76 Connector (closed to traffic): From SOV and HOV to SOV and HOV	Oceanside
Interchange Improvements	Harbor Drive to SB I-5: From 2 SOV and 1 HOV to 2 SOV and 1 HOV	Oceanside
Interchange Improvements	Harbor Drive to NB I-5: From 1 SOV and 0 HOV to 2 SOV and 0 HOV	Oceanside
Interchange Improvements	I-5/SR 56 Interchange	Oceanside
Interchange Improvements	I-5/SR 78 Interchange	Carlsbad/ Oceanside
Lagoon Bridge	Batiquitos Lagoon bridge replacement	Carlsbad
Lagoon Bridge	Agua Hedionda Lagoon bridge replacement	Carlsbad
Lagoon Bridge	Buena Vista Lagoon bridge replacement	Carlsbad
Over and Undercrossing Replacement and Upgrading	Replace the following undercrossings: Cannon Road, Chestnut Avenue, Carlsbad Village Drive, Oceanside Boulevard Overhead, I-5/SR 76 Separation, and Harbor Drive/Camp Pendleton	Carlsbad/ Oceanside
Over and Undercrossing Replacement and Upgrading	New bridge structures at: Oceanside Boulevard Overhead (NB Off-Ramp) and Harbor Drive Undercrossing (I-5 Northbound Off-Ramp)	Oceanside
Rail	Add a second main track and replace the San Luis Rey River Bridge in the 0.6-mile segment from CP East Brook to CP Shell; San Luis Rey River Bridge replacement	Oceanside
Rail	Construct a 1.1-mile second main track and straighten a curve from Mile Post (MP) 228.4 to MP 229.5 including through the Carlsbad Village Station; Buena Vista Lagoon Bridge replacement	Carlsbad
Rail	Construct 2.7 miles of a second main track between CP Ponto and CP Moonlight; expand the La Costa Avenue grade separation; Batiquitos Lagoon Bridge replacement	Carlsbad/ Encinitas
Regional and Local Gateway Features	Replace the following overcrossings and bridges: La Costa Avenue, Poinsettia Lane, Palomar Airport Road, Chinguapin Avenue, Tamarack Avenue, Las Flores Drive, Jefferson Street, SR 78/I-5 separation, Cassidy Street, California Street, Brooks Street, Mission Avenue, Fourth St/Bush Street, Neptune Way/8th Street	Carlsbad/ Oceanside
Regional and Local Gateway Features	Replace the following bridges: Buena Vista Creek Bridge and Locam Alta Creek Bridge	Carlsbad/ Oceanside
Regional and Local Gateway Features	Construct an art feature at Harbor Drive to serve as an entryway to Oceanside and the San Diego region	Oceanside
Regional and Local Gateway Features	Provide bicycle and pedestrian-friendly improvements and integrate human-scale elements such as lighting and material textures along: Carlsbad Village Drive interchange and Mission Avenue interchange	Carlsbad/ Oceanside
Station Improvements	Additional spaces at, adjacent to, or in close proximity to the existing Oceanside Transit Center to accommodate additional riders	Oceanside
Transit	Enhancements to Coast Highway bus service to include increased service frequencies and a menu of potential roadway features to facilitate transit operations, such as fewer stops, dedicated transit lanes, traffic-signal priority and intersection queue jumps	Carlsbad/ Oceanside

Regional Spine Context Map



Relevant North County CMCP Strategies



Corridor Description

I-15 serves as an intraregional north-south corridor for the San Diego region, the only north-south corridor for interregional travel to the counties of Riverside and San Bernardino.



Regional Spine Segments	Interchanges (#)	Length (Miles)
1 CMCP Northern Boundary to SR 78	4	9.4
2 SR 78 to CMCP Southern Boundary	4	5.2
Total	8	14.6

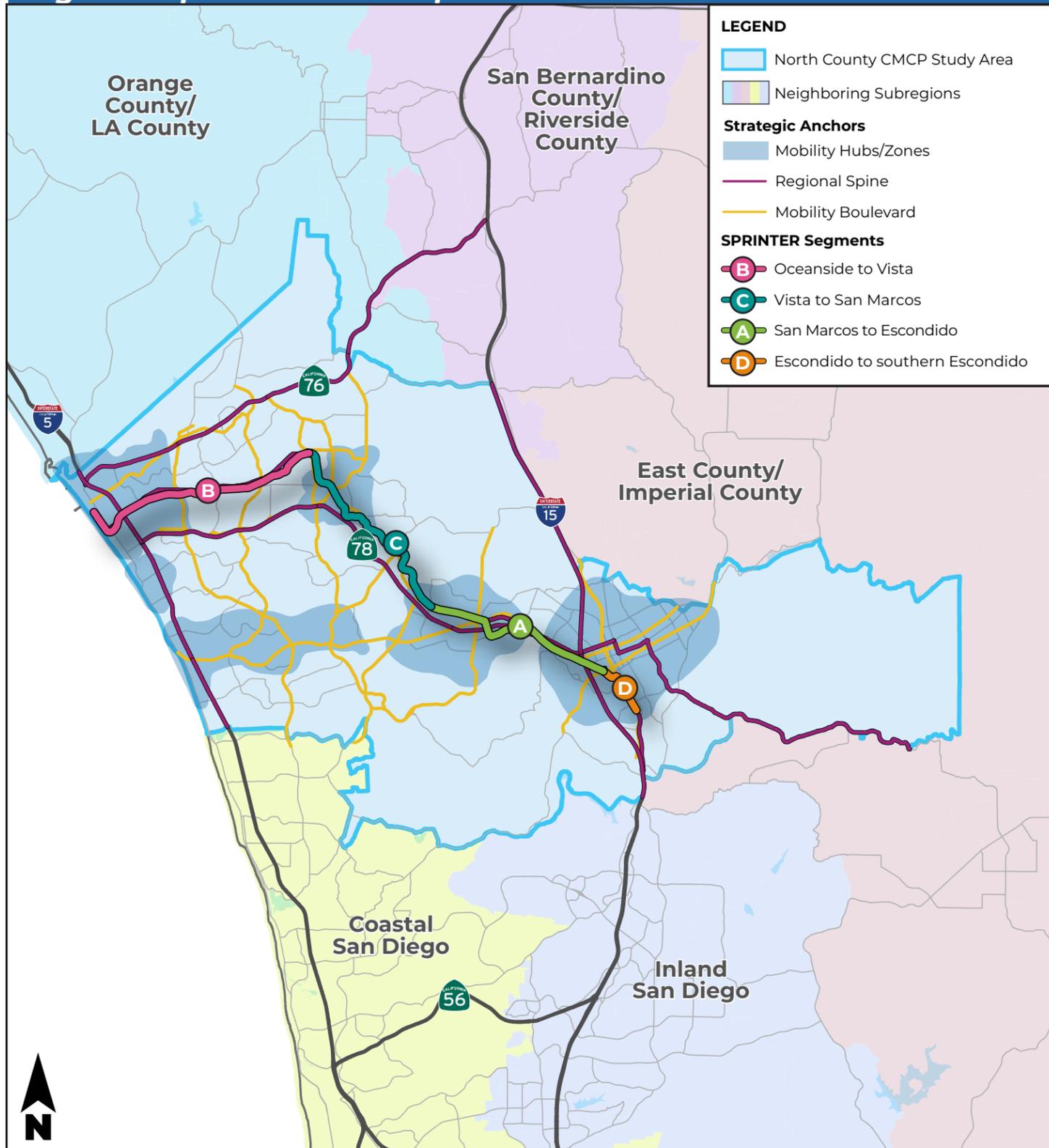
Proposed Strategies

Strategy	Segment 1	Segment 2
Managed Lanes	Planned Interregional Corridor Managed Lanes	Existing Express Lanes
Connectors/ Ramps	1 Planned Managed Lanes Connector	
Smart Intersections	3	7
High-Frequency Transit	Proposed Commuter Express (between Riverside County)	Proposed Commuter Express (between southern activity centers)
TSMO: Communication	Communication Backbone	
Reconnecting Communities	1 Overpass 4 Underpasses	2 Overpasses 7 Underpasses
Active Transportation: Crossings	2	4

Highlighted Projects and Programs

Type	Description	Location	Primary Strategy	Increase Access to Mobility Hub	Supplement/Support Mobility Boulevard	Segment 1	Segment 2
Commuter Express	Commuter express route between Riverside (Temecula) and North County at 15-minute frequencies	I-15/SR 78/San Marcos Blvd (Riverside to El Camino Real and San Marcos Blvd)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Commuter Express	Commuter express route between Kearny Mesa and North County (via Rancho Bernardo TC) at 15-minute frequencies	I-15/SR 78/San Marcos Blvd (Kearny Mesa to El Camino Real and San Marcos Blvd)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Managed Lane Connectors	Build managed lanes direct connectors between SR 78 and I-15 to improve connectivity and traffic flow on and between the two corridors	I-15 and SR 78		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Overpass/Underpass	Improve conditions at 3 overpasses and 11 underpasses (E.g., protected bike facilities, protected crossings, sidewalk widening, and lighting improvements)	I-15		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Regional Spine Context Map



LEGEND

- North County CMCP Study Area
- Neighboring Subregions
- Strategic Anchors**
 - Mobility Hubs/Zones
 - Regional Spine
 - Mobility Boulevard
- SPRINTER Segments**
 - B Oceanside to Vista
 - C Vista to San Marcos
 - A San Marcos to Escondido
 - D Escondido to southern Escondido

Relevant North County CMCP Strategies



SPRINTER Double Track (Source: NCTD)



SPRINTER Station (Source: NCTD)

Corridor Description

The SPRINTER is an east-west light rail that connects Oceanside, Vista, San Marcos, and Escondido. The SPRINTER provides an alternative to the heavily-trafficked SR 78. The planned and proposed alternatives will provide high-frequency rail service within North County communities.

Regional Spine Segments	Grade Separations (#)	Length (Miles)
A Phase A: San Marcos to Escondido	1	6.5
B Phase B: Oceanside to Vista	2	8.2
C Phase C: Vista to San Marcos	6	7.2
D Phase D: Escondido to Southern Escondido	0	1.8
Total	9	23.7

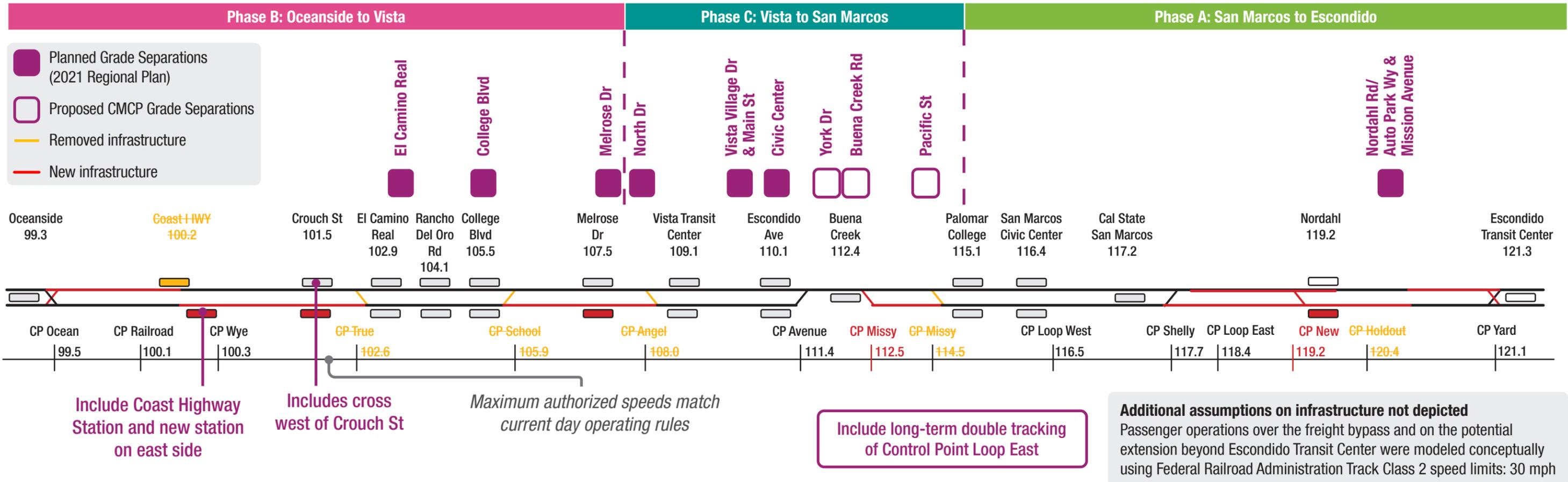
Proposed Strategies

Strategy	Phase A	Phase B	Phase C	Phase D
Smart Intersections	14 Signals	12 Signals	15 Signals	5 Signals
SPRINTER: Grade Separations	1 Planned*	2 Planned*	3 Planned* 3 Proposed	N/A
SPRINTER: Double Track	6.5 Miles	8.2 Miles	7.2 Miles	1.8 Miles
SPRINTER: Frequency	Short-Term: 10 Min	Short-Term: 20 Min Mid/Long-Term: 10 Min	Short/Mid-Term: 20 Min Long-Term: 10 Min	Long-Term: 10 Min
High-Frequency Transit	Proposed BRT Service Parallel to SPRINTER Alignment			N/A
TSMO: At-Grade Rail Crossing and Signal Coordination	24 Signals	14 Signals	25 Signals	3 Signals
Reconnecting Communities	2 Overpasses 7 Underpasses	1 Overpass	1 Overpass	N/A
Active Transportation: Rail Intersects	18	9	8	N/A
SPRINTER: Improved Station Access	5	7	3	N/A

*Planned in RTP

SPRINTER

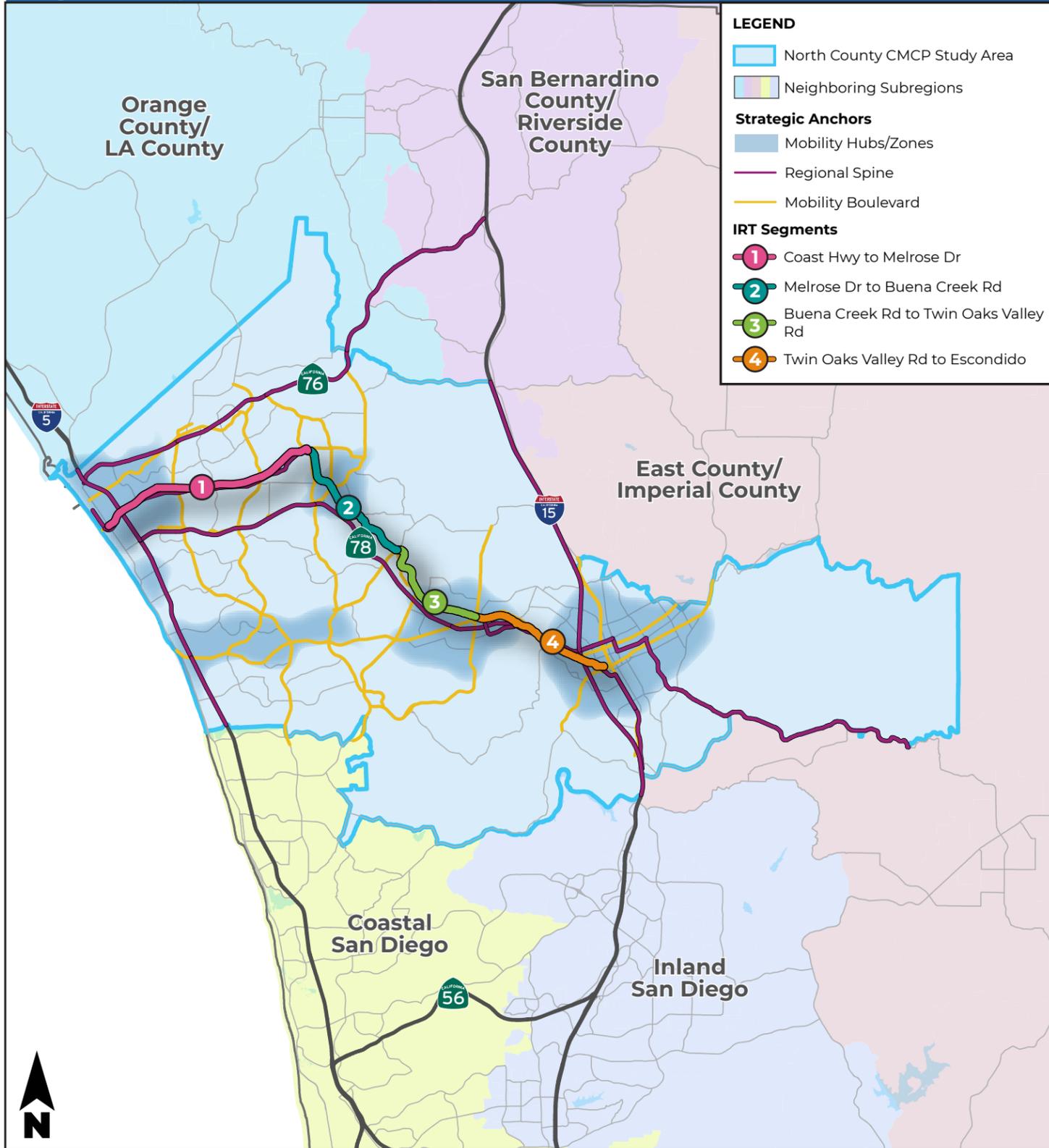
Improvements Track Map



STRATEGIC ANCHOR	MOBILITY HUB						MOBILITY BOULEVARD													
	Oceanside	Carlsbad Village	Carlsbad/Palomar	Vista	San Marcos	Escondido	Mission Ave	El Camino Real	Oceanside Blvd	College Blvd	Melrose Dr	Vista Way	Sycamore Ave	Rancho Santa Fe Rd	Palomar Airport Rd/San Marcos Blvd	Mission Rd/Santa Fe Rd	Twin Oaks Valley	Centre City Pkwy	Valley Pkwy	
Phase A	○	○	○	○	◐	◐	○	○	○	○	○	○	○	○	○	◐	◐	◐	○	◐
Phase B	◐	○	○	○	○	○	○	◐	◐	◐	◐	○	○	○	○	○	○	○	○	○
Phase C	○	○	○	◐	◐	○	○	○	○	○	○	◐	○	○	○	○	○	○	◐	○
Phase D	○	○	○	○	○	◐	○	○	○	○	○	○	○	○	○	○	○	○	◐	○

Symbol Key: ● Yes ◐ Partial ○ No

Regional Spine Context Map



LEGEND

- North County CMCP Study Area
- Neighboring Subregions
- Strategic Anchors**
 - Mobility Hubs/Zones
 - Regional Spine
 - Mobility Boulevard
- IRT Segments**
 - 1 Coast Hwy to Melrose Dr
 - 2 Melrose Dr to Buena Creek Rd
 - 3 Buena Creek Rd to Twin Oaks Valley Rd
 - 4 Twin Oaks Valley Rd to Escondido

Relevant North County CMCP Strategies



Inland Rail Trail adjacent to SPRINTER alignment (Source: SANDAG)



Inland Rail Trail with signage near Mar Vista Dr (Source: SANDAG)



Inland Rail Trail at the Buena Creek bridge (Source: SANDAG)

Corridor Description

The Inland Rail Trail is a planned protected active transportation facility that passes through the cities of Oceanside, Vista, San Marcos, and Escondido, and a portion of unincorporated San Diego County. This active transportation corridor is an important element of the San Diego Regional Bike Plan and 2021 Regional Plan. Completion of this corridor will help create an interconnected regional bike network between Escondido and the coast.

Regional Spine Segments	Intersections (#)	Length (Miles)
1 Coast Hwy to Melrose Dr (Planned)	27	7.3
2 Melrose Dr to Buena Creek Rd	8	5.0
3 Buena Creek Rd to Twin Oaks Valley Rd	10	4.0
4 Twin Oaks Valley Rd to Escondido	9	4.9
Total	54	21.2

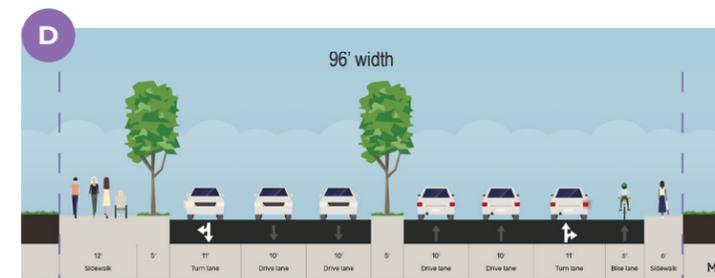
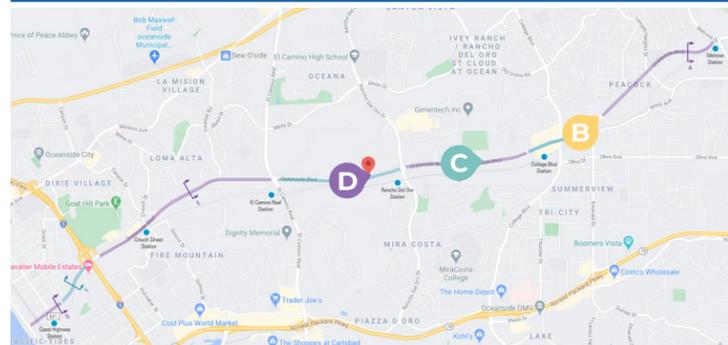
Proposed Strategies

Strategy	Segment 1	Segment 2	Segment 3	Segment 4
Smart Intersections*	33	2	6	6
Active Transportation: Trailhead Access	5	5	10	4
TSMO: SPRINTER Rail Crossing	1 Crossing	5 Crossings	5 Crossings	1 Crossing
Reconnecting Communities	1 Underpass	N/A	N/A	1 Overpass 2 Underpass

*Includes rail and local street adjacent intersections within 300 feet.

Inland Rail Trail

Example Street Running Alternatives Sections



Highlighted Projects and Programs

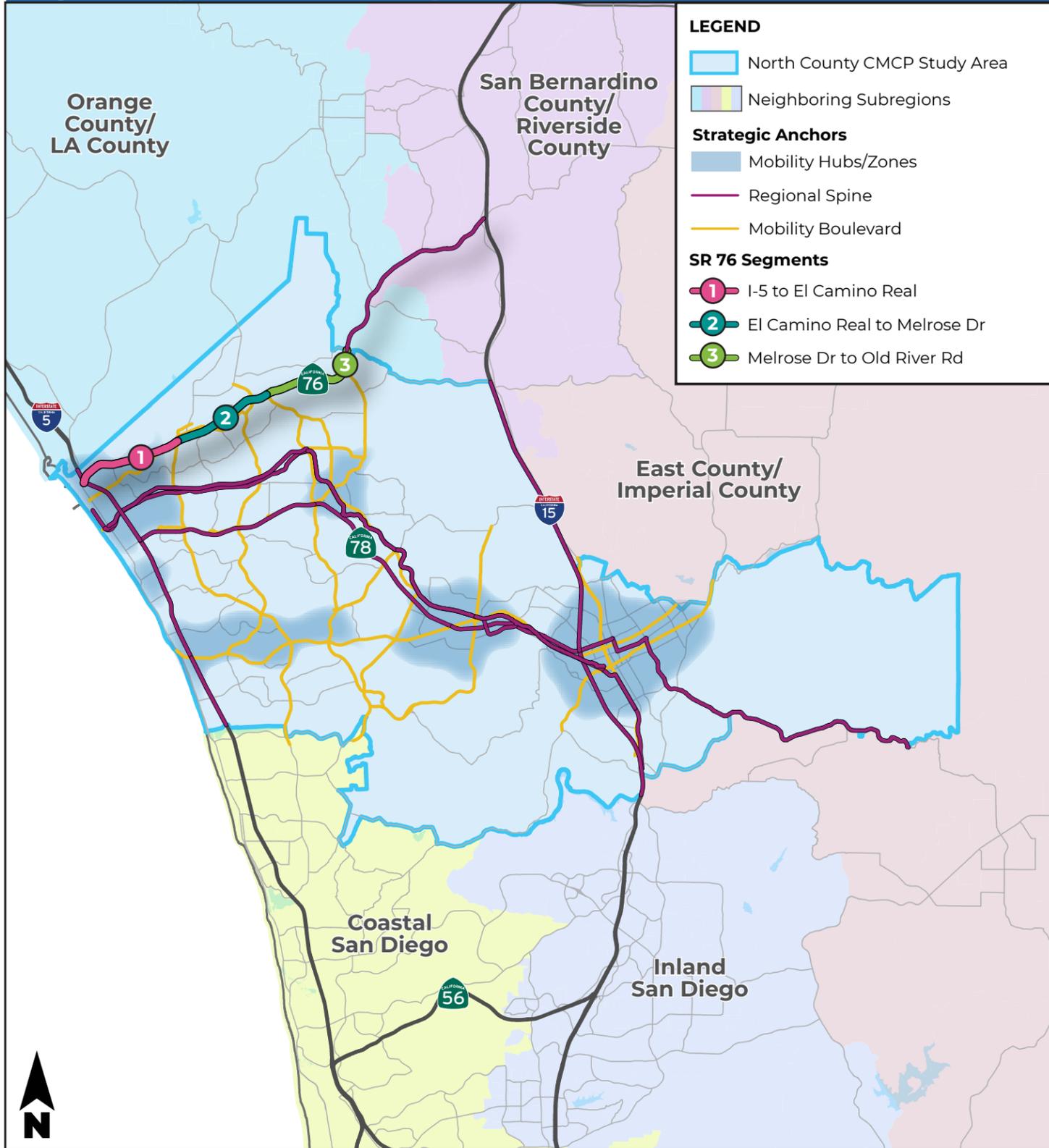
Type	Description	Location	Primary Strategy	Increase Access to Mobility Hub	Supplement/Support Mobility Boulevard	Segment 1	Segment 2	Segment 3	Segment 4
Active Transportation	Improvements to Inland Rail Trail and Trailheads from S Pacific St to Melrose Dr	Oceanside Boulevard		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Active Transportation	Inland Rail Trail: Vista (Phase 4)	City of Vista		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Station Access	Connect to the Escondido Transit Center	City of Escondido		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Trailhead Improvements	Upgrade and improve access at trailhead (E.g., wayfinding)	Inland Rail Trail corridor		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

STRATEGIC ANCHOR	MOBILITY HUB						MOBILITY BOULEVARD													
	Oceanside	Carlsbad Village	Carlsbad/Palomar	Vista	San Marcos	Escondido	Mission Ave	El Camino Real	Oceanside Blvd	College Blvd	Melrose Dr	Vista Way	Sycamore Ave	Rancho Santa Fe Rd	Palomar Airport Rd/San Marcos Blvd	Mission Rd/Santa Fe Rd	Twin Oaks Valley	Centre City Pkwy	Valley Pkwy	
Segment 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Segment 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Segment 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Segment 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

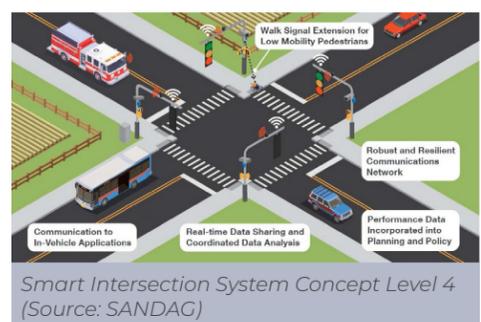
Symbol Key: Yes Partial No

State Route 76

Regional Spine Context Map



Relevant North County CMCP Strategies



Corridor Description

SR 76 serves as an east-west highway connecting I-5 along the coast to I-15 in the east. For the North County CMCP study area, Old River Road serves as the eastern terminus for the corridor. This corridor is a four-lane expressway, providing regional access and local circulation to neighborhoods in the city of Oceanside and County of San Diego.

Regional Spine Segments	Intersections (#)	Length (Miles)
1 I-5 to El Camino Real	7*	3.5
2 El Camino Real to Melrose Dr	7	3.3
3 Melrose Dr to Old River Rd	6	3.5
Total	20	10.3

Note: *Intersection number for I-5 to El Camino Real segment includes 1 interchange.

Proposed Strategies

Strategy	Segment 1	Segment 2	Segment 3
Managed Lanes	Dynamic Lane Assignment		
Smart Intersections	6	7	6
Active Transportation: Crossings	8	7	6
High-Frequency Transit	N/A	Proposed Rapid Service	
TSMO: Communication	Communication Backbone		
TSMO: Signal Coordination	N/A	N/A	1 Signal Transit Management Coordination
Reconnecting Communities	3 Underpasses	1 Underpass	1 Underpass

State Route 76

Highlighted Projects and Programs

Type	Description	Location	Primary Strategy	Increase Access to Mobility Hub	Supplement/Support Mobility Boulevard	Segment 1	Segment 2	Segment 3
Signal Synchronization	Implement an effective signal synchronization program along SR 76 to adjust flow of traffic based on traffic patterns and volumes	SR 76		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dynamic Lanes	Implement dynamic lanes to improve traffic operations	SR 76		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Operational Improvements	4-lane expressway plus 2 HOV/dynamic lanes	SR 76 (Melrose Dr to I-5)		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Bicycle Signals/ Detection	Bicycle signals and detection equipment at signalized intersections	SR 76		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Grade Separation Analysis	SR 76 Grade Separation Feasibility Study	SR 76 (College Blvd and Douglas Dr)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
High-Frequency Transit	Provide high-frequency, limited stop BRT service along Mission Ave in Oceanside	Mission Ave/SR 76		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>