

CENTRAL MOBILITY HUB AND CONNECTIONS COMPREHENSIVE MULTIMODAL CORRIDOR PLAN

Appendix E: Implementation

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E. Implementation

E.1. On/Off-Model Performance Results

The CMH and Connections CMCP project team has identified over 200 potential strategies to promote mobility in the study area. These strategies were drawn from findings in the 2021 Regional Plan and its supporting documents, prior planning studies and projects, as well as public input. While the strategy development process mirrored that of earlier CMCP corridor projects, the unique location and characteristics of this project necessitated a hybrid approach for modeling and evaluation of the proposed solutions. This hybrid approach consisted of three ABM2+ model runs, three Simplified Trips-on-Projects Software (STOPS) off-model runs, and one Active Transportation Network off-model analysis.

1. The **ABM2+ modeling** simulated daily travel behavior of individuals in the region under the proposed scenarios, examining factors such as transportation modes used, vehicles miles driven, and time spent in traffic delays. These performance metrics were summarized at both regional and CMH and Connections CMCP Study Area levels, and the evaluation mainly concentrated on the study area summary.
2. The **STOPS Modeling** off-model outputs provided more granular results on transit ridership metrics (e.g., stop level daily ridership). Results from the model allowed the CMCP project team to attain insight into the performance of two distinct new fixed-guideway configurations.
3. Lastly, the **Active Transportation** analysis considered the correlation between active transportation network completeness and improvements in mode share or VMT reduction.

Through this hybrid approach, the project team generated a comprehensive set of detailed performance measures to evaluate each of the alternatives. The results are presented and evaluated in the following sections.

Model Performance Results

ABM2+ Results

The ABM2+ modeled scenarios for analysis are numbered below.

1. Scenario 1 – Refined 2021 Regional Plan Network: The scenario is based a refined 2021 Regional Plan network. The scenario does not include the construction of a new regional multimodal transit hub or a fixed-guideway airport connectivity line, rather this scenario assumes the existing Old Town Transit Center as the area's main transit facility.
2. Scenario 2 – Concept 1B: This scenario assumes the refined 2021 Regional Plan Network and proposes a construction of the Port Transit Center (PTC) to serve as a regional multimodal transit hub. The scenario also proposes the implementation of a fixed-guideway airport connectivity line between the San Diego International Airport (SDIA) and the PTC.
3. Scenario 3 – Concept 5B: This scenario bears a resemblance to Concept 1B with the primary distinction being fixed-guideway airport connectivity line. In this scenario, the fixed-guideway service line links the SDIA to the PTC and stretches further downtown, featuring stops at Santa Fe Depot, as well as the San Diego Civic Center.

The results of the ABM2+ Model, as presented in Table E-1 through Table E-10, are derived from the CMH and Connections CMCP Study Area summary spreadsheet. In addition to the results of the three CMH and Connections CMCP scenarios, the tables also reference the results of the 2021 Regional Plan network improvements for comparison against current base conditions.

Table E-1: Mode Share Across the Scenarios (All Trips)

Mode Share Across the Scenarios				
Mode Share (All Trips)	2021 Regional Plan Network Improvements	Scenario 1 – Refined 2021 Regional Plan Network	Scenario 2 – Concept 1B	Scenario 3 – Concept 5B
Drive Alone	43.8%	31.41%	31.43%	31.38%
Shared Ride 2	19.5%	18.28%	18.24%	18.26%
Shared Ride 3+	9.9%	10.58%	10.59%	10.65%
Transit	4.4%	9.08%	9.04%	9.07%
Walk	1.3%	25.10%	25.17%	25.14%
Bike	19.2%	2.82%	2.80%	2.78%

Table E-2: Mode Share Across the Scenarios (Commute Trips)

Mode Share Across the Scenarios				
Mode Share (Commute Trips)	2021 Regional Plan Network Improvements	Scenario 1 – Refined 2021 Regional Plan Network	Scenario 2 – Concept 1B	Scenario 3 – Concept 5B
Drive Alone	68.2%	49.6%	49.6%	49.7%
Shared Ride 2	8.9%	8.8%	8.7%	8.8%
Shared Ride 3+	2.7%	4.2%	4.1%	4.2%
Transit	10.6%	22.2%	22.2%	22.1%
Walk	3.3%	7.2%	7.1%	7.1%
Bike	5.7%	7.0%	7.0%	7.0%

Table E-3: Total Number of Trips Across the Scenarios (All Trips)

Total Number of Trips Across the Scenarios				
Person Trips (All Trips)	2021 Regional Plan Network Improvements	Scenario 1 – Refined 2021 Regional Plan Network	Scenario 2 – Concept 1B	Scenario 3 – Concept 5B
Drive Alone	1,025,848	765,292	766,404	764,134
Shared Ride 2	457,233	445,452	444,746	444,568
Shared Ride 3+	231,590	257,865	258,345	259,269
Transit	103,265	221,306	220,369	220,748
Walk	30,076	611,450	613,786	612,144
Bike	450,185	68,618	68,331	67,676
Total (including other modes)	2,342,646	2,436,486	2,438,626	2,435,061

Table E-4: Total Number of Trips Across the Scenarios (Commute Trips)

Total Number of Commute Trips Across the Scenarios				
Person Trips (Commute Trips)	2021 Regional Plan Network Improvements	Scenario 1 – Refined 2021 Regional Plan Network	Scenario 2 – Concept 1B	Scenario 3 – Concept 5B
Drive Alone	160,939	117,404	117,712	117,968
Shared Ride 2	20,937	20,775	20,703	20,823
Shared Ride 3+	6,341	9,865	9,827	9,865
Transit	25,056	52,435	52,736	52,406
Walk	7,680	16,582	16,553	16,635
Bike	13,434	17,019	16,884	16,774
Total (including other modes)	236,143	236,691	237,090	237,166

Table E-5: Daily Vehicle Miles Traveled (VMT) Across the Scenarios

VMT Across the Scenarios				
Daily VMT	2021 Regional Plan Network Improvements	Scenario 1 – Refined 2021 Regional Plan Network	Scenario 2 – Concept 1B	Scenario 3 – Concept 5B
Study Area Total	6,009,448	4,956,025	4,928,718	4,919,099
SB743 VMT per resident	12.74	9.04	9.07	9.04
SB743 VMT per employee	20.2	16.12	16.14	16.17
Lane Mile	6,616	5,288	5,255	5,249

Table E-6: 2021 Regional Plan Network Improvements - Percent of residents that can access tier 1 & 2 employment centers or higher education via transit within 30 and 45 minutes (Social Equity Analysis)

Scenario 1- Percent of residents that can access tier 1 & 2 employment centers or higher education via transit within 30 and 45 minutes (Social Equity Analysis)						
2021 Regional Plan Network Improvements	Higher Education		Tier 1 Employment Center		Tier 2 Employment Center	
	within 30min	within 45min	within 30min	within 45min	within 30min	within 45min
Low Income population	76.3%	96.2%	84.4%	97.3%	97.9%	99.6%
Minority population	81.4%	97.1%	87.5%	96.7%	96.8%	99.2%
Non-Low-Income population	74.6%	95.9%	83.4%	97.6%	98.2%	99.8%
Non-Minority population	79.6%	97.5%	88.9%	98.6%	98.8%	99.8%
Non-Senior population	72.2%	94.5%	78.7%	95.7%	96.7%	99.4%
Senior population	74.3%	95.8%	82.9%	97.6%	98.3%	99.8%
Study Area Total	76.7%	96.3%	84.7%	97.3%	97.8%	99.6%

Table E-7: Scenario 1- Percent of residents that can access tier 1 & 2 employment centers or higher education via transit within 30 and 45 minutes (Social Equity Analysis)

Scenario 1- Percent of residents that can access tier 1 & 2 employment centers or higher education via transit within 30 and 45 minutes (Social Equity Analysis)						
Scenario 1 – Refined 2021 Regional Plan Network	Higher Education		Tier 1 Employment Center		Tier 2 Employment Center	
	within 30min	within 45min	within 30min	within 45min	within 30min	within 45min
Low Income population	83.6%	99.1%	92.1%	99.2%	99.3%	99.4%
Minority population	88.1%	99.6%	93.4%	99.7%	99.8%	99.9%
Non-Low-Income population	84.1%	99.4%	89.2%	99.5%	99.8%	100.0%
Non-Minority population	78.5%	98.9%	85.4%	99.0%	99.4%	99.7%
Non-Senior population	84.0%	99.3%	90.2%	99.4%	99.6%	99.8%
Senior population	83.7%	99.4%	88.9%	99.4%	99.8%	100.0%
Study Area Total	83.9%	99.3%	90.0%	99.4%	99.6%	99.8%

Table E-8: Scenario 2- Percent of residents that can access tier 1 & 2 employment centers or higher education via transit within 30 and 45 minutes (Social Equity Analysis)

Scenario 2- Percent of residents that can access tier 1 & 2 employment centers or higher education via transit within 30 and 45 minutes (Social Equity Analysis)						
Scenario 2 – Concept 1B	Higher Education		Tier 1 Employment Center		Tier 2 Employment Center	
	within 30min	within 45min	within 30min	within 45min	within 30min	within 45min
Low Income population	83.5%	99.1%	92.1%	99.2%	99.3%	99.4%
Minority population	88.0%	99.6%	93.4%	99.7%	99.8%	99.9%
Non-Low-Income population	84.0%	99.4%	89.3%	99.5%	99.8%	100.0%
Non-Minority population	78.4%	98.9%	85.5%	99.0%	99.4%	99.7%
Non-Senior population	83.9%	99.3%	90.2%	99.4%	99.6%	99.8%
Senior population	83.6%	99.4%	88.9%	99.4%	99.8%	100.0%

Scenario 2- Percent of residents that can access tier 1 & 2 employment centers or higher education via transit within 30 and 45 minutes (Social Equity Analysis)						
Scenario 2 – Concept 1B	Higher Education		Tier 1 Employment Center		Tier 2 Employment Center	
	within 30min	within 45min	within 30min	within 45min	within 30min	within 45min
Study Area Total	83.9%	99.3%	90.0%	99.4%	99.6%	99.8%

Table E-9: Scenario 3: Percent of residents that can access tier 1 & 2 employment centers or higher education via transit within 30 and 45 minutes (Social Equity Analysis)

Scenario 3: Percent of residents that can access tier 1 & 2 employment centers or higher education via transit within 30 and 45 minutes (Social Equity Analysis)						
Scenario 3 – Concept 5B	Higher Education		Tier 1 Employment Center		Tier 2 Employment Center	
	within 30min	within 45min	within 30min	within 45min	within 30min	within 45min
Low Income population	83.5%	99.1%	92.1%	99.2%	99.3%	99.4%
Minority population	88.0%	99.6%	93.4%	99.7%	99.8%	99.9%
Non-Low Income population	84.0%	99.4%	89.3%	99.5%	99.8%	100.0%
Non-Minority population	78.4%	98.9%	85.5%	99.0%	99.4%	99.7%
Non-Senior population	83.9%	99.3%	90.2%	99.4%	99.6%	99.8%
Senior population	83.6%	99.4%	88.9%	99.4%	99.8%	100.0%
Study Area Total	83.9%	99.3%	90.0%	99.4%	99.6%	99.8%

Table E-10: Bicycle and Pedestrian Miles Traveled Across the Scenarios

Bicycle and Pedestrian Miles Traveled Across the Scenarios				
Active transportation and micromobility	2021 Regional Plan Network Improvements	Scenario 1 – Refined 2021 Regional Plan Network	Scenario 2 – Concept 1B	Scenario 3 – Concept 5B
Bicycle	130,588	374,223	372,780	369,282
Pedestrian	634,304	829,479	837,533	837,827
Percent of the population engaged in 20 minutes or more of transportation related physical activity	39.2%	1,203,702	1,210,313	1,207,109

STOPS Results

The modeled scenarios for STOPS analysis are numbered below.

1. Existing Scenario: The existing transit scenario is a critical element of the ridership estimation process as it builds the foundation for all future model runs. The STOPS application used 2016 weekday travel data for this scenario.
2. Future Existing Conditions Scenario: In this scenario, the transit system was modified to reflect anticipated 2025 conditions. This scenario was based on the 2022 GTFS data and includes the San Diego Flyer and the Airport rental car shuttle bus services.
3. Build Scenario – Concepts:
 - a. STOPS A: Rental Car Fixed-Guideway: This scenario replaces the existing rental car shuttle bus service with a fixed-guideway service line to transport passengers between the airport terminals and the rental car facility.
 - b. STOPS B: Airport Loop Fixed Guideway: This scenario proposes a loop a fixed-guideway service line from the airport passenger terminal west along Harbor Drive to Nimitz Boulevard then north along Truxtun Road to Barnett Avenue. The alignment would continue from Barnett Avenue to Pacific Highway east to the rental car center before looping back to the airport terminal via Laurel Street
 - c. STOPS C: Fixed-Guideway to Downtown + Ocean Beach Spur: This scenario proposes an extended airport connectivity service line. The Downtown route begins at Civic Center and travels Pacific Highway and Harbor Drive to the airport passenger terminal before stopping at the rental car center. The Ocean Beach route starts and the PTC and continues on Pacific Highway to Sports Arena Boulevard before ending in Ocean Beach on Point Loma Boulevard

The results of the STOPS model Build Scenarios are provided in Table E- 11 through Table E- 14

Table E-11: 2025 Weekday Scenario Forecasts

2025 Weekday Scenario Forecasts			
Concept	New Transit Trips	Total Boardings	VMT Savings
STOPS Run A: Rental Car Fixed-Guideway	100	15,718	140
STOPS Run B: Airport Loop Fixed-Guideway	1,300	21,473	3,200
STOPS Run C: Downtown + Ocean Beach	1,400	19,800	4,000

Table E-12: STOPS Run A - Rental Car Fixed-Guideway 2025 Station Boardings

Rental Car Fixed-Guideway 2025 Station Boardings	
Station	Weekday Boardings
Pacific Highway	296
Harbor Island Station	29
Airport Station	7,852
CONRAC	7,541
TOTAL	15,718

Figure E-1: STOPS Run A - Rental Car Fixed-Guideway 2025 Station Location and Boardings



Table E-13: STOPS Run B - Airport Loop Fixed-Guideway 2025 Station Boardings

Airport Loop Fixed-Guideway 2025 Station Boardings	
Station	Weekday Boardings
PTC Station	1,755
Pacific Highway	471
Laurel	5
Harbor Drive	6
Harbor Island Station	37
Airport Station	9,900
Spanish Landing	2
Nimitz Station	1
Nimitz Blvd	174
Truxton/Nimitz	65
Truxton/Laning	108

Airport Loop Fixed-Guideway 2025 Station Boardings	
Station	Weekday Boardings
High Tech High School	54
Truxton/Roosevelt	209
Liberty Station	54
Truxton/Barnett	118
Marine Corp	108
Barnett / Midway	334
Pacific Hwy / Witherby	73
Pacific Hwy / Washington	128
CONRAC	7,857
Admiral Boland Way	14
TOTAL	21,473

Figure E-2: STOPS Run B - Airport Loop Fixed-Guideway 2025 Station Locations and Boardings



Table E-14: STOPS Run C - Downtown + Ocean Beach 2025 Station Boardings

Downtown + Ocean Beach 2025 Station Boardings	
Station	Weekday Boardings
PTC Station	398
Noell	184
Pacific Highway / Barnett	924
Rosecrans	269
Pechanga Arena	1,091
West Point Loma	639
Ocean Beach	604
Pacific Highway / Laurel	296
Harbor Island Station	32
Airport Station	7,921
CONRAC	7,540
Hawthorne	95
Santa Fe Depot	76
Civic Center	131
TOTAL	20,200

Figure E-3: STOPS Run C - Downtown + Ocean Beach Fixed-Guideway 2025 Station Locations and Boardings



Off Model Performance Results

Active Transportation Results

The active transportation network proposed in earlier reports is an expansion of the facilities already outlined in the Midway-Pacific Highway and Old Town Community plans, Downtown San Diego Mobility Plan, and other plans in the regional model. As these facilities are already integrated into the 2021 Regional Plan model, the active transportation analysis concentrated on the new additions since its adoption. Moreover, since the objective is to provide active transportation amenities throughout the study area, the same active transportation network is included in all three alternatives. Table E- 15 presents the extra mileage of active transportation facilities according to the type of bicycle facility. Figure E-4 displays the existing bicycle infrastructure by classification as well as the new infrastructure recommended in the near-term.

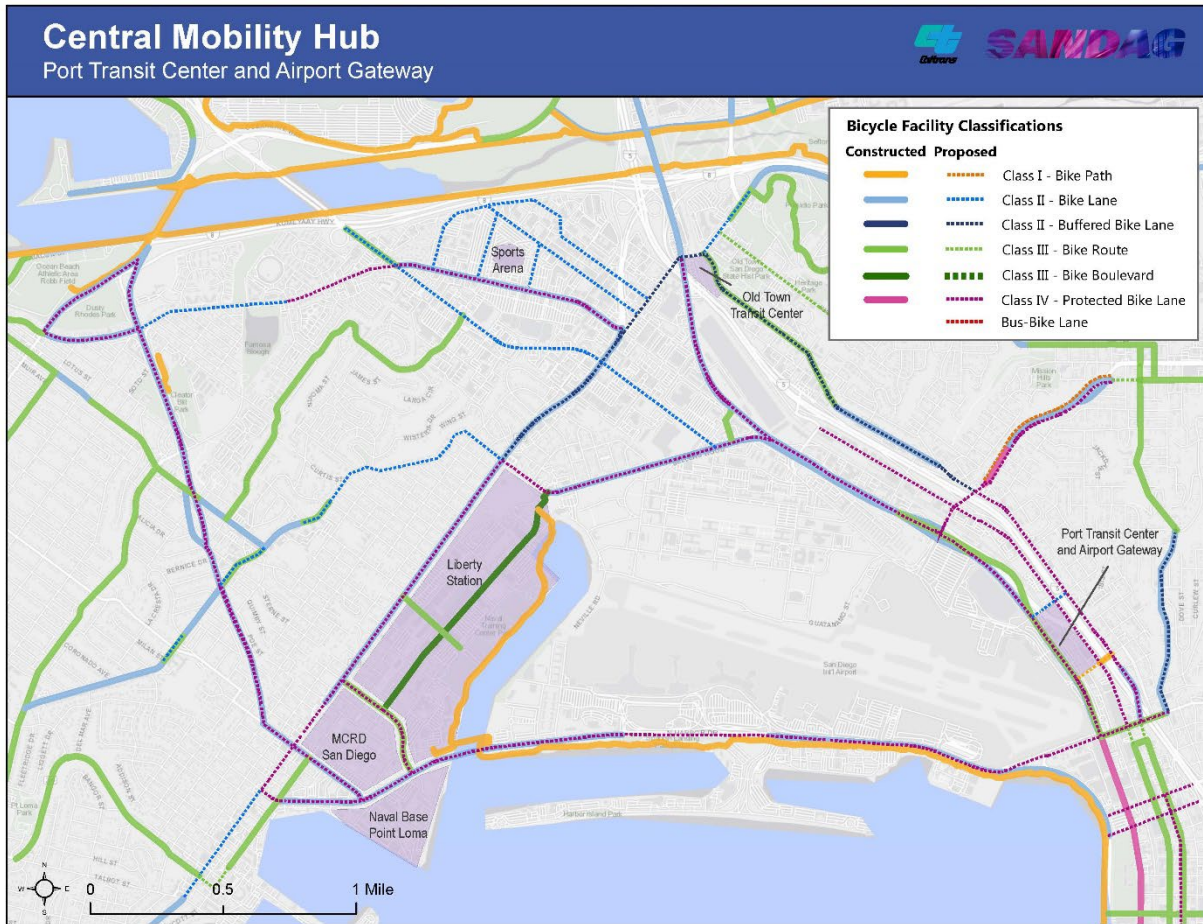
As indicated, the proposed active transportation network extends the length of protected bicycle amenities by 20.6 miles, with a significant portion of these being Class II facilities that are upgraded to Class IV and Class I. In areas where there are obstacles to obtaining right-of-way, such as West Point Loma Boulevard, the proposed network strives to balance the requirements for exclusive transit lanes and bicycle facilities, while having an equitable impact on nearby high-density residential development.

To assess the impact of the proposed active transportation network, the project team calculated the potential reduction in VMT using the SANDAG Mobility Management VMT Reduction Calculator Tool. The analysis demonstrates that the additional active transportation facilities have the potential to reduce VMT within the study area by an additional 0.2%.

Table E-15: Change in Active Transportation Facilities

Change in Active Transportation Facilities	
Bicycle Facility Type	Length (Miles)
I	+1.3
II	-11.2
III	-4.5
IV	+19.3
Bus-Bike	+0.6

Figure E-4: Existing and Recommended Bicycle Facility Classifications – Near-term



E.2. Cost Estimate

Capital or installation costs were calculated and considered for every TSS proposed. Costs are rough order of magnitude costs that were primarily derived from SANDAG’s 2021 Regional Plan exercise to be consistent with other agencies’ plans and efforts (more detail can be found in Appendix U of the 2021 Regional Plan). Estimates derived from other CMCPs were also reviewed to further consistency across the CMCP program. The estimates include construction, design, engineering, and planning. Other Costs that were not included in the SANDAG 2021 Regional Plan process or other CMCPs were identified through discussions with subject matter experts.

All costs are escalated to 2022 dollars and account for 30% contingency, which is standard for transportation infrastructure and technology solutions at a preliminary/conceptual state of development. The preliminary costs provided do not consider additional costs incurred during subsequent phases of planning, design, and support necessary to further develop each TSS.

The total capital cost of the 243 strategies proposed is approximately \$30.5 billion. breaks down this cost by implementation phase.

For Flexible Fleets and Next OS elements, a yearly escalation of 5% was applied for all costs produced before 2020 and a yearly escalation of 10% was applied for all costs produced in 2020 or 2021. For example, if a cost was sourced from 2019, the escalation was assumed to be 25%. This was applied to Flexible Fleets and Next OS elements since technology escalation differs from construction escalation. Technology and electronic elements follow the yearly Consumer Price Index (CPI) more closely, deviating slightly higher due to specific industry challenges. As an example, electronic manufacturers increased component prices by 10% on average in 2022, however 12-month CPI inflation projections for 2022 are around 8%, indicating technology escalation is higher than that of the general market.

Cost estimates for Mobility Hubs and Flexible Fleets, Next OS, Transit, Complete Corridors/Active Transportation, Freeway are provided in Table E-17, Table E-18, Table E-19, Table E-20, and Table E-21 respectively.

Table E-16: Cost Estimate by Phase

Cost Estimate by Phase	
Phase	Cost
Short-Term Implementation	\$250 million
Medium-Term Implementation	\$3.4 billion
Long-Term Implementation	\$26.8 billion
All Timeframes	\$30.5 billion

Mobility Hub & Flexible Fleet TSS Costs

Table E-17: Mobility Hub & Flexible Fleet TSS Costs

Mobility Hub & Flexible Fleet TSS Costs			
Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
MH01	Mobility Hub - All	Wayfinding Signage	N/A
MH02	Mobility Hub - All	Placemaking amenities including resting areas and shade, benches, device charging stations, landscaping and public art	N/A
MH03	PTC Mobility Hub	Parking corrals for shared rideables	\$ 340,000
MH04	PTC Mobility Hub	Lockers for safe retail deliveries	\$ 160,000
MH05	PTC Mobility Hub	Bike lockers and fix-it stations	\$ 78,000
MH06	PTC Mobility Hub	Dynamic / flexible parking	N/A
MH07	PTC Mobility Hub	Multilingual interactive kiosks	\$ 320,000
MH08	PTC Mobility Hub	TNC / KissNRide dedicated area	\$ 640,000
MH09	Ocean Beach Mobility Node	Parking corrals for rideables	\$ 340,000
MH10	Ocean Beach Mobility Node	EV and e-bike chargers	\$ 2,000,000
MH11	Ocean Beach Mobility Node	Lockers for safe retail deliveries	\$ 160,000
MH12	Ocean Beach Mobility Node	Bike lockers and fix-it stations	\$ 78,000
MH13	Ocean Beach Mobility Node	Dynamic / flexible parking	N/A
MH14	Ocean Beach Mobility Node	Multilingual interactive kiosks	\$ 320,000
MH15	Sports Arena Mobility Node	Parking corrals for rideables	\$ 340,000
MH16	Sports Arena Mobility Node	EV and e-bike chargers	\$ 2,000,000
MH17	Sports Arena Mobility Node	Lockers for safe retail deliveries	\$ 160,000
MH18	Sports Arena Mobility Node	Bike lockers and fix-it stations	\$ 78,000
MH19	Uptown Mobility Node	Parking corrals for rideables	\$ 340,000
MH20	Uptown Mobility Node	Dynamic / flexible parking	N/A
MH21	Uptown Mobility Node	Bike Lockers and Fix-it Stations	\$ 78,000
MH22	Uptown Mobility Node	EV and e-bike chargers	\$ 2,000,000
MH23	Uptown Mobility Node	Multilingual interactive kiosks	\$ 320,000
MH24	Downtown/Little Italy Mobility Node	Lockers for safe retail deliveries	\$ 160,000
MH25	Downtown/Little Italy Mobility Node	Parking corrals for rideables	\$ 340,000
MH26	Downtown/Little Italy Mobility Node	Bike Lockers and Fix-it Stations	\$ 78,000
MH27	Downtown/Little Italy Mobility Node	Dynamic / flexible parking	N/A

Mobility Hub & Flexible Fleet TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
MH28	Downtown/Little Italy Mobility Node	Multilingual interactive kiosks	\$ 320,000
MH29	Downtown/City College Mobility Node	Lockers for safe retail deliveries	\$ 160,000
MH30	Downtown/City College Mobility Node	Parking corrals for rideables	\$ 340,000
MH31	Downtown/City College Mobility Node	Bike Lockers and Fix-it Stations	\$ 78,000
MH32	Downtown/City College Mobility Node	Dynamic / flexible parking	N/A
MH33	Downtown/City College Mobility Node	Multilingual interactive kiosks	\$ 320,000
MH34	Downtown/ Imperial Transit Center Mobility Node	Parking corrals for rideables	\$ 340,000
MH35	Downtown/ Imperial Transit Center Mobility Node	Bike Lockers and Fix-it Stations	\$ 78,000
MH36	Downtown/ Imperial Transit Center Mobility Node	Lockers for safe retail deliveries	\$ 160,000
MH37	Downtown/ Imperial Transit Center Mobility Node	Dynamic / flexible parking	N/A
MH38	Downtown/ Imperial Transit Center Mobility Node	Multilingual interactive kiosks	\$ 320,000
MH39	Ocean Beach Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	\$ 81,000
MH40	Ocean Beach Next Gen Rapid Enhanced Stop	Personal device charging stations	\$ 21,000
MH41	Ocean Beach Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	N/A
MH42	Ocean Beach Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	\$ 260,000
MH43	Ocean Beach Next Gen Rapid Enhanced Stop	Seating and shelter	\$ 15,000
MH44	Ocean Beach Next Gen Rapid Enhanced Stop	Bike Racks	\$ 2,000
MH45	Ocean Beach Next Gen Rapid Enhanced Stop	Parking corrals for rideables	\$ 210,000
MH46	Sunset Cliffs Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	\$ 81,000

Mobility Hub & Flexible Fleet TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
MH47	Sunset Cliffs Next Gen Rapid Enhanced Stop	Personal device charging stations	\$ 21,000
MH48	Sunset Cliffs Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	N/A
MH49	Sunset Cliffs Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	\$ 260,000
MH50	Sunset Cliffs Next Gen Rapid Enhanced Stop	Seating and shelter	\$ 15,000
MH51	Sunset Cliffs Next Gen Rapid Enhanced Stop	Bike Racks	\$ 2,000
MH52	Sunset Cliffs Next Gen Rapid Enhanced Stop	Parking corrals for rideables	\$ 210,000
MH53	Shelter Island Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	\$ 81,000
MH54	Shelter Island Next Gen Rapid Enhanced Stop	Personal device charging stations	\$ 21,000
MH55	Shelter Island Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	N/A
MH56	Shelter Island Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	\$ 260,000
MH57	Shelter Island Next Gen Rapid Enhanced Stop	Seating and shelter	\$ 15,000
MH58	Shelter Island Next Gen Rapid Enhanced Stop	Bike Racks	\$ 2,000
MH59	Shelter Island Next Gen Rapid Enhanced Stop	Parking corrals for rideables	\$ 210,000
MH60	Naval Base Point Loma Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	\$ 81,000
MH61	Naval Base Point Loma Next Gen Rapid Enhanced Stop	Personal device charging stations	\$ 21,000
MH62	Naval Base Point Loma Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	N/A
MH63	Naval Base Point Loma Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	\$ 260,000
MH64	Naval Base Point Loma Next Gen Rapid Enhanced Stop	Seating and shelter	\$ 15,000
MH65	Naval Base Point Loma Next Gen Rapid Enhanced Stop	Bike Racks	\$ 2,000

Mobility Hub & Flexible Fleet TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
MH66	Naval Base Point Loma Next Gen Rapid Enhanced Stop	Parking corrals for rideables	\$ 210,000
MH67	Liberty Station Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	\$ 81,000
MH68	Liberty Station Next Gen Rapid Enhanced Stop	Personal device charging stations	\$ 21,000
MH69	Liberty Station Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	N/A
MH70	Liberty Station Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	\$ 260,000
MH71	Liberty Station Next Gen Rapid Enhanced Stop	Seating and shelter	\$ 15,000
MH72	Liberty Station Next Gen Rapid Enhanced Stop	Bike Racks	\$ 2,000
MH73	Liberty Station Next Gen Rapid Enhanced Stop	Parking corrals for rideables	\$ 210,000
MH74	Uptown Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	\$ 81,000
MH75	Uptown Next Gen Rapid Enhanced Stop	Personal device charging stations	\$ 21,000
MH76	Uptown Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	N/A
MH77	Uptown Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	\$ 260,000
MH78	Uptown Next Gen Rapid Enhanced Stop	Seating and shelter	\$ 15,000
MH79	Uptown Next Gen Rapid Enhanced Stop	Bike Racks	\$ 2,000
MH80	Uptown Next Gen Rapid Enhanced Stop	Parking corrals for rideables	\$ 210,000
MH81	UCSD Medical Center Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	\$ 81,000
MH82	UCSD Medical Center Next Gen Rapid Enhanced Stop	Personal device charging stations	\$ 21,000
MH83	UCSD Medical Center Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	N/A
MH84	UCSD Medical Center Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	\$ 260,000

Mobility Hub & Flexible Fleet TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
MH85	UCSD Medical Center Next Gen Rapid Enhanced Stop	Seating and shelter	\$ 15,000
MH86	UCSD Medical Center Next Gen Rapid Enhanced Stop	Bike Racks	\$ 2,000
MH87	UCSD Medical Center Next Gen Rapid Enhanced Stop	Parking corrals for rideables	\$ 210,000
MH88	Downtown / Little Italy Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	\$ 81,000
MH89	Downtown / Little Italy Next Gen Rapid Enhanced Stop	Personal device charging stations	\$ 21,000
MH90	Downtown / Little Italy Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	N/A
MH91	Downtown / Little Italy Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	\$ 260,000
MH92	Downtown / Little Italy Next Gen Rapid Enhanced Stop	Seating and shelter	\$ 15,000
MH93	Downtown / Little Italy Next Gen Rapid Enhanced Stop	Bike Racks	\$ 2,000
MH94	Downtown / Little Italy Next Gen Rapid Enhanced Stop	Parking corrals for rideables	\$ 210,000
FF01	Flexible Fleet - Ocean Beach	Micromobility fleet (shared e-bikes and e-scooter)	N/A
FF02	Flexible Fleet - Ocean Beach	Carshare	N/A
FF03	Flexible Fleet - Ocean Beach	Microtransit service from transit to beach	N/A
FF04	Flexible Fleet - Sports Arena Boulevard	Micromobility fleet (shared e-bikes and e-scooter)	N/A
FF05	Flexible Fleet - Sports Arena Boulevard	Carshare	N/A
FF06	Flexible Fleet - Sports Arena Boulevard	Microtransit service from transit to Sports Arena and commercial destinations	N/A
FF07	Flexible Fleet Uptown	Micromobility fleet (shared e-bikes and e-scooter)	N/A
FF08	Flexible Fleet Uptown	Carshare	N/A
FF09	Flexible Fleet Uptown	Microtransit service along University	N/A
FF10	Flexible Fleet - Downtown - Little Italy	Micromobility fleet (shared e-bikes and e-scooter)	N/A

Mobility Hub & Flexible Fleet TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
FF11	Flexible Fleet - Downtown - Little Italy	Carshare	N/A
FF12	Flexible Fleet - Downtown - City College	Micromobility fleet (shared e-bikes and e-scooter)	N/A
FF13	Flexible Fleet - Downtown - City College	Carshare	N/A
FF14	Flexible Fleet - Liberty Station Next Gen Rapid Stop	NEV around Liberty Station	N/A
FF15	Flexible Fleet - Liberty Station Next Gen Rapid Stop	Carshare	N/A
FF16	Flexible Fleet - Liberty Station Next Gen Rapid Stop	Micromobility fleet (shared e-bikes and e-scooter)	N/A
FF17	Flexible Fleet - UCSD Medical Center Next Gen Rapid Enhanced Stop	Microtransit service from transit to hospital facility	N/A
FF18	Flexible Fleet - UCSD Medical Center Next Gen Rapid Enhanced Stop	Carshare	N/A
FF19	Flexible Fleet - UCSD Medical Center Next Gen Rapid Enhanced Stop	Micromobility fleet (shared e-bikes and e-scooter)	N/A

Next OS TSS Costs

Table E-18: Next OS TSS Costs

Next OS TSS Costs			
Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
NO01	Next OS - Data Hub	High-speed data analytics, data repository, and data performance management platform that will bring together public transportation data and develop a public-private information exchange with companies such as transportation network companies and micromobility fleets. Micromobility and other flexible fleets will benefit from a consolidated database given the decentralized nature of the service. In addition, data hub should support complete corridor performance monitoring and metrics to support optimization of dynamic lane management for Active Traffic Management (ATM) and Active Transportation Demand Management (ATMD).	\$ 2,000,000
NO02	Next OS - Curb Access and Parking	Dynamic management of curbs including access and pricing rules. Overall functionality to be applied in proximity to neighborhood mobility hubs and where flex lanes are designated. Can also be applied throughout the study area where higher densities of commercial and residential uses occur, and the strategy would assist with reducing static parking requirements and allowing increased PU/DU (pick-up/drop-off) areas.	\$ 700,000
NO03	Next OS - Transit Optimization	Dynamic transit routing, scheduling, and communications, already some functionality in place regionally, but enhanced optimization would include improved monitoring of traffic conditions and ensuring optimal use of ATDM functions.	\$ 2,000,000
NO04	Next OS - Mobility as a Service App	Application to plan, book, and pay across public and private shared services. Relies on the sharing of information between public and private providers. This function should be provided regionally and leveraged in the study area to promote transit and alternative modes and lower obstacles to greater mode shifts.	\$ 2,000,000

Next OS TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
NO05	Next OS - Smart Intersections - Pacific Highway --1	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	\$ 2,000,000
NO06	Next OS - Smart Intersections - Pacific Highway --2	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	\$ 510,000
NO07	Next OS - Smart Intersections - Rosecrans St	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	\$ 510,000
NO08	Next OS - Smart Intersections - Sports Arena Blvd	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	\$ 510,000
NO09	Next OS - Smart Intersections - W Point Loma Blvd	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	\$ 510,000
NO10	Next OS - Smart Intersections - 5th Ave	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	\$ 510,000
NO11	Next OS - Smart Intersections - Barnett Dr	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	\$ 510,000
NO12	Next OS - Smart Intersections - W Washington	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	\$ 510,000
NO13	Next OS - Smart Intersections - N Harbor Dr	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	\$ 510,000

Next OS TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
NO14	Next OS - Next Generation Integrated Corridor Management System	Provide coordinated response and control for real-time operations across freeway, arterials, and transit networks as part of the broader complete corridors concept in the study area. In particular, ICMS functions should support and integrate with the ATM/ATDM features and provide for improved mobility between the designated ATDM and the smart intersection/flex lane facilities under recurring and non-recurring congestion conditions.	\$ 12,000,000
NO15	Next OS - Systems and Software	Enables regional transportation system operators to collect, analyze, and share data to improve transportation systems management and operations. This is a regionally enabled function that would be leveraged by the corridor to support a variety of operations and optimization efforts including optimizing transit service and operations, ATM, ATDM, and monitoring the success of on-going mobility programs.	\$ 10,000,000
NO16	Next OS - Truck Route Data	ATM concepts along the corridor include provisions for a temporal truck lane in areas with significant grades near the Port of San Diego. The scheduled times or actual status of this truck lane should be made available through Next OS to 511SD and associated traveler information systems.	N/A
NO17	Next OS - Emergency Response and Other Data	Emergency situations and incidents can significantly impact mobility along key portions of the corridor (e.g. open spaces susceptible to wild fires, etc.) that could limit capacity and impact transit services, truck routing, etc. It is important incidents and situations of this sort leverage Next OS to inform all operations centers and private and public mobility operators of the situation to allow for shifts in operations and to inform travelers of viable alternatives to reduce exacerbating impacts of the situation.	N/A
NO18	Next OS - Dynamic Curb Management - Port Transit Center	Physical, signage, and ITS infrastructure at PTC should be implemented to support flexible curb usage and accommodate for changing demand. Curb management may be integrated with smart parking solutions where appropriate.	\$ 380,000

Next OS TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
NO19	Next OS - Dynamic Curb Management - Ocean Beach	Physical, signage, and ITS infrastructure at Ocean Beach Mobility Hub should be implemented to support flexible curb usage and accommodate for changing demand.	\$ 380,000
NO20	Next OS - Dynamic Curb Management - Sports Arena	Physical, signage, and ITS infrastructure in Midway/Sports Arena Mobility Hub should be implemented to support flexible curb usage and accommodate for changing demand.	\$ 380,000
NO21	Next OS - Dynamic Curb Management - Uptown	Physical, signage, and ITS infrastructure at Uptown Mobility Hub should be implemented to support of flexible curb usage and accommodate for changing demand. Curb management may be integrated with smart parking solutions where appropriate.	\$ 380,000
NO22	Next OS - Dynamic Curb Management - Downtown/Little Italy	Physical, signage, and ITS infrastructure at Downtown/Little Italy Mobility Hub should be implemented to support of flexible curb usage and accommodate for changing demand. Curb management may be integrated with smart parking solutions where appropriate.	\$ 380,000
NO23	Next OS - Dynamic Curb Management - Downtown/City College	Physical, signage, and ITS infrastructure at Downtown/City College Mobility Hub should be implemented to support of flexible curb usage and accommodate for changing demand. Curb management may be integrated with smart parking solutions where appropriate.	\$ 380,000
NO24	Next OS - Dynamic Lane Assignment	Part of the ATM/ATDM concept, lanes can be dynamically assigned based on temporal conditions and anticipated demands and traffic types. For ATDM this will typically include bus only lanes or bus and HOV lanes but can also include HOT/Express Lanes or support Connected Autonomous Vehicle designated lanes. Repurpose road space to reflect current or expected demand conditions.	N/A

Next OS TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
NO25	Next OS - Shoulder Running	Part of the ATM/ATDM concept, shoulder running or "all-lanes running" allows for peak period use of shoulder areas as running lanes presuming the shoulders have been properly upgraded and prepared for regular traffic. Shoulder lanes may be used for transit lanes, truck lanes, or additional auxiliary lanes to support transitions to/from major N/S freeway corridors to the SR-52.	\$ 4,000,000
NO26	Next OS - Flexible Travel Lanes - Broadway	Flexible Travel lanes to be dynamically reserved for transit, shuttles, rideshare, carshare and/or electric vehicles to relieve congestion and improve travel times.	\$ 2,000,000
NO27	Next OS - Flexible Travel Lanes - 5th St	Flexible Travel lanes to be dynamically reserved for transit, shuttles, rideshare, carshare and/or electric vehicles to relieve congestion and improve travel times.	\$ 730,000
NO28	Next OS - Flexible Travel Lanes - B St	Flexible Travel lanes to be dynamically reserved for transit, shuttles, rideshare, carshare and/or electric vehicles to relieve congestion and improve travel times.	\$ 880,000
NO29	Next OS - ATM 1 - All Lanes Running I-5 from I-8 to SR 94	Active Traffic Management 1: Enables the smooth flow of all traffic modes with a few dedicated lanes to HOV and transit, but all lanes open and running with variable speeds. Electronic signage enables use of shoulder areas, as well as enhanced traffic separation prior to major moves to N/S connecting facilities. ATM includes traveler information functions to warn of incidents and other conditions and would be integrated with regional traveler information solutions such as 511SD.	\$ 13,000,000
NO30	Next OS - ATDM 1 - All Lanes Running I-5 from I-8 to SR 94	Active Transportation and Demand Management 1: Promote a mode shift and support alternative modes along the corridor by integrating with smart intersections, incentivizing mode shifts, designating special transit lanes and ramp access along the ATM enabled areas of the CMH corridor. All lanes running could include utilizing shoulder lanes for transit during an interim period before managed lanes are in place and continued use could support interchange congestion. ATDM would also include integration with supporting traveler	\$ 2,000,000

Next OS TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
		information and trip planning functions regionally as provided through systems such as 511SD and others.	
NO31	Next OS - ATDM Integration at PTC (Northbound)	In order to support proper access and improve transit service, the configuration of the on-ramps near the proposed PTC location should be adjusted and temporal transit/HOV lanes put in place to support integration of the arterial flex lanes and the ATDM elements on Southbound I-5.	\$ 410,000
NO32	Next OS - ATDM Integration at PTC (Southbound)	In order to support proper access and improve transit service, the configuration of the on-ramps near the proposed PTC location should be adjusted and temporal transit/HOV lanes put in place to support integration of the arterial flex lanes and the ATDM elements on I-5.	\$ 410,000
NO33	Next OS - ATDM Integration at PTC (Eastbound)	In order to support proper access and improve transit service, the configuration of the on-ramps near the proposed PTC location should be adjusted and temporal transit/HOV lanes put in place to support integration of the arterial flex lanes and the ATDM elements on I-8.	\$ 410,000
NO34	Next OS - Incident Management	Install the systems and ITS to coordinate incident detection, response, and clearing and restore traffic flow quickly and safely. This includes enhancement of camera, vehicle detection, and incident detection systems along SR52 and I-805, as well as improved integrated incident management between State and local agencies along the corridor consistent with emerging TSM&O and ICMS efforts.	N/A

Next OS TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
NO35	Next OS - Incident Response	Systems that prepare and communicate incidents to the community. Responses could dynamically adjust speed, divert or reroute traffic, encourage transit, and reach corridor wide coordination/integration.	\$ 810,000
NO36	Next OS - Performance Monitoring	Utilize real-time data (speeds, volumes, vehicle occupancy, VSS compliance) to improve performance of transit, carshare, bikeshare, and traffic flows. This information can be used to point users to mobility alternatives and to enforce ATDM and dynamic lane assignments.	\$ 18,000,000
NO37	Next OS - Performance Assessment, Evaluation, Optimization	Utilize historical data (vehicle classification, speeds, volumes, vehicle occupancy, VSS compliance) to perform system assessments and evaluations to better understand the impact of network changes and events on performance. Optimize system function informed by this analysis.	\$ 18,000,000
NO38	Next OS - Fleet and Vehicle tracking	Consistent with current practice for bus and BRT systems, automatic vehicle location (AVL) functions help operators and the central management system understand the locations of individual vehicles within a transit network. This informs real-time transit information, and should support integrated information between MTS provided services and potential private supporting flex fleet services.	N/A
NO39	Next OS - Passenger Counting	This function helps to understand passenger demand patterns that can be used to adjust and inform service changes and improvements.	N/A
NO40	Next OS - Integrated fare payment and trip-planning portal	Off-board fare payment and routing information makes it more seamless for riders using transit. Riders can pay beforehand for their whole trip and receive guided instructions for their trip, particularly if they are using multiple modes. This function should be regionally integrated with the MaaS functions and leveraged within the study area. Account based approaches such as those being rolled out regionally with Pronto could be leveraged.	N/A

Next OS TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
NO41	Next OS - Regional Traveler Information/511	Regional traveler information on trip planning, roadway conditions, weather, travel options, congestion, incidents, mobility services, mobility systems status, etc. would be provided for the CCT corridor through regional outlets such as 511SD and other private options receiving data from agency systems. Access to this information would be through multiple means including smartphone apps, web, broadcast through third parties, kiosks at mobility hubs, etc.	N/A
NO42	Next OS - Real-time Information	Real-time information allows riders to receive updates on their smartphone or locally placed dynamic signage to know the status of their transit vehicles and ease rider uncertainty.	\$ 3,000,000
NO43	Next OS - Wi-Fi	Reliable on-board Wi-Fi is increasingly important as smartphones are widely used and can connect riders to real-time transit information, routing and payment as well for an enhanced experience while riding.	N/A
NO44	Next OS - Audio and visual next stop announcements	Consistent with current standard practice ensure all buses and transit are equipped with communication devices to provide next stop announcements letting riders know the next stop and enhancing the customer experience. This feature also helps support the goal of equity for all types of users. This currently exists on MTS fixed route service - but may need associated	N/A
NO45	Next OS - Transportation Management Center	Leverage and operate ATM/ATDM functions through existing operations centers for Caltrans and MTS.	\$ 460,000
NO46	Next OS - Universal Transportation Account	Leverage regional efforts towards an integrated application providing centralized information related to parking, rideable, mobility-on-demand and fixed route transit. This may leverage current account-based solutions such as Pronto (depending on institutional agreements).	N/A

Next OS TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
NO47	Next OS - Transit Signal Priority	Part of the smart intersection corridors functionality where signal programming allows transit vehicles to be prioritized at crossings/intersections. Shorter travel times and more reliable service could result from the addition of dedicated lanes paired with signal priority during peak travel hours. Should be integrated with physical infrastructure improvements (e.g. Flex Lanes, etc.) where possible.	N/A
NO48	Next OS - Bike Signal Management	Along key active transportation arterials or in known areas of bicycle/auto conflict issues, bike signals (e.g. the green wave) may be installed to incentivize safe bicycle use as well as prioritize bikes on streets.	N/A
NO49	Next OS - Smart Parking - PTC	Implement smart parking functionality which provides enhanced information on parking availability, time limitations, costs, and payment in conjunction with curb management and mobility hub efforts.	\$ 2,000,000
NO50	Next OS - Smart Parking - Sports Arena	Implement smart parking functionality which provides enhanced information on parking availability, time limitations, costs, and payment in conjunction with curb management and mobility hub efforts.	\$ 2,000,000
NO51	Next OS - Smart Parking - Uptown	Implement smart parking functionality which provides enhanced information on parking availability, time limitations, costs, and payment in conjunction with curb management and mobility hub efforts.	\$ 2,000,000
NO52	Next OS - CMH Integrated Management Control Center	Centrally managed command and control center for most if not all different operational elements of the CMH. The control center would allow CMH to centrally integrate and manage the various discrete control systems allowing for analytics for multiple systems and entities, giving a more complete picture of ongoing operations performance by including functions of data management, analytics, visualization, and communications. A digital platform that compiles information from sources like passenger vehicles, delivery trucks, e-bikes, and scooters into a centralized data hub allows operations to be better planned, operated, and experienced.	\$ 10,000,000

Transit TSS Costs

Table E-19: Transit TSS Costs

Transit TSS Costs			
Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
TR01	Rapid 28	Proposed Rapid route from Point Loma to Kearny Mesa via Central Mobility Hub, Linda Vista	\$ 120,000,000
TR02	Rapid 910	Proposed Rapid route from Coronado to Downtown via Coronado Bridge	\$ 27,000,000
TR03	Rapid 120	Proposed Rapid route from Kearny Mesa to Downtown via Mission Valley	\$ 48,000,000
TR04	Airport Connection 577	PTC to Airport via Car Rental Lot and Harbor Island East Basin	\$ 1,500,000,000
TR05	Tram 555	Downtown to Logan Heights, Golden Hill, South Park, North Park, University Heights, Hillcrest	\$ 1,300,000,000
TR06	Route 583	Proposed high speed commuter rail line from the PTC to the U.S. Border via Downtown San Diego	\$22,700,000,000
TR07	Light Rail Transit PTC to OB	Proposed SPUR light rail transit line from Port Transit Center to Ocean Beach	\$ 1,200,000,000
TR09	Rapid 10 Phase 2	La Mesa to Ocean Beach via Mid-City, Hillcrest, Central Mobility Hub (full version of Rapid)	\$ 76,000,000
TR10	Rapid 12 Phase 2	Spring Valley to PTC via Southeast San Diego (full version of Rapid)	\$ 100,000,000
TR11	NCTD 398	Update of existing NCTD 398 route to include Stop connection at proposed PTC	N/A
TR12	Route 10	Update of existing MTS 10 route to include Stop connection at proposed PTC	\$ 3,000,000
TR13	Route 30	Update of existing MTS 30 route to include Stop connection at proposed PTC	\$ 3,000,000
TR14	Route 923	Update of existing MTS 923 route to include Stop connection at proposed PTC	\$ 3,000,000

Transit TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
TR15	Route 992	Update of existing MTS 992 route to include Stop connection at proposed PTC	\$ 3,000,000
TR16	Rapid 235	Downtown San Diego to Escondido Next Gen Rapid Route. Updated 2021 RP Strategy to extend to PTC via Pacific Hwy	\$ 3,000,000
TR18	Broadway Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along Broadway	\$ 12,000,000
TR19	B Street Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along Broadway from 16th St to 4th St	\$ 5,000,000
TR20	N Harbor Drive Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along N Harbor Drive from Rosecrans St to Broadway	\$ 36,000,000
TR22	Pacific Highway Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along Pacific Hwy from Taylor St to PTC	\$ 31,000,000
TR23	Pacific Highway Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along Pacific Hwy from Broadway to Laurel St	\$ 11,000,000
TR24	Rosecrans Street Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along Rosecrans St from Gate Rd to Barnett Ave	\$ 37,000,000
TR25	Barnett Avenue Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along Barnett Avenue from Rosecrans St to Pacific Hwy	\$ 6,000,000
TR26	Sports Arena Blvd Dedicated Transit Lane Segment	Proposed dedicated transit lane segment along Sports Arena Boulevard from W Point Loma Dr to Pacific Hwy	\$ 12,000,000
TR27	Point Loma Blvd Dedicated Transit Lane Segment	Proposed dedicated transit lane segment along Point Loma Blvd from Midway Dr to Cable St	\$ 19,000,000
TR28	Hancock Street Dedicated Transit Lane Segment	Proposed dedicated transit lane segment along Hancock St from Rosecrans St to Kurtz St	\$ 9,000,000

Transit TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
TR29	Kurtz Street Dedicated Transit Lane Segment	Proposed dedicated transit lane segment along Kurtz St from Rosecrans St to Hancock St	\$ 7,000,000

Complete Corridors/Active Transportation TSS Costs

Table E-20: Complete Corridors/Active Transportation TSS Costs

Complete Corridors/Active Transportation TSS Costs			
Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
AT01	Truxtun Road Bike Boulevard	Barnett Avenue to Laning Road	\$ 110,000
AT02	Central Coast Corridor - North Harbor Drive Class I	Spanish Landing Park (West) to World Pier	\$ 26,000,000
AT03	North Harbor Drive Path / Nimitz Bridge Class I	Stockton Road to North Harbor Drive	N/A
AT04	Sports Arena Boulevard Class I	Midway Drive to Pacific Highway	\$ 15,000,000
AT05	West Palm Street Class I	Pacific Highway to India Street	\$ 2,000,000
AT06	Sports Arena Boulevard/Midway Drive Class I	Sports Arena Boulevard to Rosecrans Street	\$ 10,000,000
AT07	Sports Arena Boulevard/Midway Drive Class I	Rosecrans Street to Barnett Avenue	\$ 5,000,000
AT08	Pacific Highway Class I	Rosecrans Street to West Laurel Street	\$ 27,000,000
AT09	Kurtz Street Class II	Sports Arena Boulevard to Rosecrans Street	\$ 690,000
AT10	Chatsworth Boulevard/Lytton Street/Barnett Avenue Class II	Catalina Boulevard to Rosecrans Street	\$ 2,000,000
AT11	Laning Road Class II	Rosecrans Street to Historic Decatur Road	\$ 140,000
AT12	Sassafras Street Class II	Pacific Highway to India Street	\$ 69,000
AT13	Sports Arena Boulevard/Midway Drive Class II	I-8 WB Off-Ramps to Sports Arena Boulevard	\$ 210,000
AT14	Sports Arena Boulevard/Midway Drive Class II	Sports Arena Boulevard to Rosecrans Street	\$ 620,000
AT15	Sports Arena Boulevard/Midway Drive Class II	Rosecrans Street to Barnett Avenue	\$ 350,000
AT16	Taylor Street Class II	Morena Boulevard to Pacific Highway	\$ 210,000
AT17	Frontier Drive Class II	Hancock Street to Sports Arena Boulevard	N/A
AT18	East Drive Class II	Kurtz Street to Sports Arena Boulevard	N/A

Complete Corridors/Active Transportation TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
AT19	San Diego Avenue/India Street Class II (B)	Old Town Avenue to Washington Street	\$ 550,000
AT20	Coastal Rail Trail San Diego - Pacific Highway (Fiesta Island to Taylor Street) Class IV	Sea World Drive to Taylor Street	\$ 7,000,000
AT21	Pacific Coast Highway / Central Mobility Bikeway Class IV	Taylor Street to Laurel Street	\$ 17,000,000
AT22	Coastal Rail Trail San Diego - Pacific Highway (Laurel Street to Santa Fe Depot) Class IV	Laurel Street to Broadway	\$ 7,000,000
AT23	Uptown Bikeways: Washington Street and Mission Valley Bikeways Class IV	Hancock Street to University Avenue	\$ 5,000,000
AT24	Central Coast Corridor - Nimitz Boulevard Class IV	Sunset Cliffs Boulevard to North Harbor Drive	\$ 15,000,000
AT25	West Point Loma Boulevard / Sports Arena Boulevard Class IV	Sunset Cliffs Boulevard to Pacific Highway	\$ 18,000,000
AT26	Chatsworth Boulevard/Lytton Street/Barnett Avenue Class IV	Rosecrans Street to Pacific Highway	\$ 7,000,000
AT27	North Harbor Drive Class IV	Rosecrans Street to West Laurel Street	\$ 20,000,000
AT28	Laning Road Class IV	Historic Decatur Road to North Harbor Drive	\$ 1,000,000
AT29	Laurel Street Class IV	Harbor Drive to Pacific Highway	\$ 1,000,000
AT30	Laurel Street Class IV	Pacific Highway to State Street	\$ 1,000,000
AT31	Hawthorn Street Class IV	Harbor Drive to I-5 NB Ramps	\$ 3,000,000
AT32	Grape Street Class IV	Harbor Drive to I-5 NB Ramps	\$ 3,000,000
AT33	Sunset Cliffs Boulevard Class IV	I-8 WB Off-Ramps to W Point Loma Boulevard	\$ 3,000,000
AT34	Nimitz Boulevard Class IV	Sunset Cliffs Boulevard to North Harbor Drive	\$ 15,000,000
AT35	Rosecrans Street Class IV	Pacific Highway to Sports Arena Boulevard	\$ 2,000,000
AT36	Rosecrans Street Class IV	Sports Arena Boulevard to Lytton Street	\$ 5,000,000
AT37	Rosecrans Street Class IV	Lytton Street to North Harbor Drive	\$ 10,000,000
AT38	Pacific Highway Class IV	Rosecrans Street to West Laurel	\$ 17,000,000

Complete Corridors/Active Transportation TSS Costs

Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
		Street	
AT39	Kettner Boulevard/Hancock Street Class IV	Northern terminus to West Laurel Street	\$ 12,000,000
AT40	San Diego Avenue/India Street Class IV	Washington Street to West Laurel Street	\$ 7,000,000
AT41	State Street Class IV	Hawthorn Street to Ash Street	\$ 3,000,000
AT42	PTC/W Palm Street Pedestrian Bridge	PTC CMH (western edge of Kettner Blvd) to India Street	\$ 19,000,000

Freeway TSS Costs

Table E-21: Freeway TSS Costs

Freeway TSS Costs			
Refined Strategy ID	Strategy Name	Description	Rounded Cost (2022)
CC-01	I-5 Managed Lanes	Convert two existing general-purpose lanes to managed lanes and add two additional managed lanes	\$ 40,000,000
CC-02	I-5 Managed Lanes	Convert two existing general-purpose lanes to managed lanes and add two additional managed lanes	\$ 70,000,000
CC-03	I-8 Managed Lanes	Convert two existing general-purpose lanes to managed lanes and add two additional managed lanes	\$ 20,000,000
CC-04	SR 163 Managed Lanes	Convert two existing general-purpose lanes to managed lanes	\$ 45,000,000
CC-05	SR 163 Southbound Managed Lanes Phase 1	Convert southbound shoulder/median to managed lane on southbound SR-163	\$ 7,000,000
CC-06	I-5/I-8 ML Connectors	South to East and West to North	\$ 250,000,000
CC-07	I-5/I-8 ML Connectors	North to East and West to South	\$ 250,000,000
CC-08	Complete Corridor: Airport Connectivity	Airport Connectivity including Laurel Street airport entrance, Laurel Street modifications (Pacific Highway to I-15), and new I-5 freeway ramps at Laurel Street and Redwood	\$1,000,000,000
CC-09	I-5 at Old Town Avenue Interchange reconfiguration	Reconfigure Old Town Avenue Interchange	\$ 50,000,000
CC-10	I-5 DAR at Port Transit Center	Reconstruct SB Sassafras St exit ramp with access to Port Transit Center	\$ 54,000,000

E.3. Implementation Assessment Matrix

A detailed list of projects and transportation improvements were identified to support access and connectivity within and around the CMH and Connection CMCP study area and area of influence. Projects will be distributed over a near (2030), short (2035) and long (2050) term timeline based on several factors. These factors include whether the project is listed in the SANDAG 2021 Regional Plan, if the project has been identified as a priority by community members or local stakeholders, complexity of the project, project readiness, and if there is funding available to initiate the project. Additionally, SANDAG is evaluating several potential alignments for airport transit connections; several of which include a transit center at the location of the existing PTC. The phasing of the PTC will also impact project phasing, as some of the transportation strategies will need to be in place either prior to, or following the opening of the PTC.

Coordination with other Plans and Initiatives

Some of the improvements included in the project list are initiatives already planned, either by in SANDAG's 2021 Regional Plan or by local jurisdictions. In most cases, projects already planned will require only minor adaptations to fulfill the overall goals and objectives of the CMH and Connections CMCP. Projects already planned will be prioritized for the near-term implementation. However, some projects in the 2021 Regional Plan are of high complexity and cost, and embody significant environmental, physical or financial challenges; consequently, complex projects identified in the Regional Plan may phase within the mid- to long-term implementation timeline. Projects envisioned in the near-term include bike improvements (both planned and proposed as part of the CMH and Connections CMP), traffic signal priority, and new Next Gen *Rapid* services.

Another key coordination effort that will take place is between the implementation of the CMCP and the Central Mobility Hub itself. Several of the improvements identified as part of the CMCP are dependent upon the implementation of the airport connection. Others will need to be in place prior to the opening of the PTC to support access and connectivity to the new transit facility. These inter-dependencies will be considered and closely reviewed as part of the phasing and implementation strategy.

Cost and Level of Complexity

As mentioned above, projects that are relatively straightforward, low-cost and that are already planned by SANDAG or other jurisdictions will be slated as near term. Short-term improvements include the deployment of flexible fleets and mobility hubs as well as improved intersections. Improvements that would require further coordination and planning but low to medium levels of complexity or cost will be categorized as medium-term. These projects may include those needed to improve multimodal access to the PTC and the CMH.

Finally, larger-scale improvements that would require extensive partnerships, incur significant cost, and/or that would entail significant changes to the transportation network would be slated as long term. If an improvement has not been identified as a priority by community members and local stakeholders, or if it relies on technology that is not readily available, it will be slated as long term. These improvements include the direct-transit connection to the airport, transit leap and road reconfiguration projects such as the reconfiguration of Washington and Hancock.

Policy and Funding Cycles

Policy categorization entails looking at each proposed transportation project to determine how it aligns with existing policies and programs. The projects proposed as part of this CMCP initiative already are designed to support and implement the vision presented in the 5 Big Moves and the SANDAG 2021 Regional Plan. The Alternatives Evaluation methodology further lists the regional and state policies that need to be taken into consideration for the development of a CMCP that is well positioned to obtain grant funding in the future. These grants are listed and detailed in Task 5.6 – Transportation Solution Strategy Costs, and include:

- Caltrans Sustainable Transportation Planning Grants
- Active Transportation Grants
- Transit and Intercity Rail Capital Program (TIRCP) Grants
- Solutions for Congested Corridors (SCC) Grants

Federal funding is also available through the INFRA, FTA or FRA grant programs, among others, as well as the Bi-Partisan Infrastructure Law or Infrastructure Investment and Jobs Act (IIJA) that was signed into law in November 2021.

Funding cycles for state and federal grants typically occur over a 2- or 4-year period. It is recommended to develop a phasing approach that will take into consideration these various grant opportunities and timelines, so that specific projects that fit within the guidelines of specific grants be ready when the funding becomes available.

Ballot measures are also potential funding opportunities that could be pursued every two years. Phasing will consider the electoral cycles and propose a package of projects to be integrated as part of a ballot initiative.

Support of Local Transportation and Land Use Plans

The CMH and Connections CMCP has a regional scope that is expected to bring benefits to San Diego County as a whole, however, the proposed transportation improvement projects also support the local vision for the study area where several pockets of transit-oriented development are envisioned. The Midway Community Plan, for instance, plans for the development of urban villages, including the Dutch Flats project and Sports Arena project. These villages will lead to higher densities that could support complementary uses, such as retail and dining, and contribute to transit ridership. The Midway Community Plan is set around a 30-year time horizon, with a 2015 baseline. These new residents would most directly benefit from transportation network improvements surrounding the sites. Thus, it is important that the proposed transportation projects be implemented ahead of, or in conjunction with these new land use developments.

Residential construction may also provide opportunities to implement the planned transportation improvements concurrently. The phasing of the projects, established over a 2020-2050 timeline, should take into account expected development projects around the site and identify opportunities for a combined approach.

Intelligent Transportation Systems (ITS)/Technology

SANDAG is currently updating its ITS architecture, which includes the roadmap for the Next Operating System (OS), or the system that will support data collection, integration, analysis and sharing throughout the region. This ITS architecture defines which infrastructure needs to be in place and which stakeholders must be brought on for the implementation of the technological feature of any transportation project. For example, the implementation of Flexible Fleets is based on a ten-year implementation timeline and will require updating ITS equipment at the municipal and regional levels. Some of the proposed transportation improvements are dependent on continued evolution of emerging technologies. It is recommended that these considerations be refined and integrated as part of the phasing of transportation improvements.

Partnerships

The CMH and Connections CMCP brings together modes, people, and communities. To support the implementation of the proposed TSS will require strong partnerships with key partner agencies, including:

- SANDAG
- Caltrans
- San Diego Regional Airport Authority
- The City of San Diego
- MTS
- NCTD
- The U.S. Navy

In collaboration with the public, these partners will play a central role in key components of the CMH and Connections CMCP, and may lead some of the envisioned transportation projects. Each of these partners have their own missions, timelines, budgets and strategic plans to take into consideration. The CMH and Connections CMCP project leaders have made a point to bring the partners to the table from the earliest stages of the project, which can enhance collaboration and an alignment of everyone's plans.

TSS Implementation Criteria and Phasing

The approach to assess the phasing timeframe for each TSS is similar and consistent with other CMCP efforts conducted by SANDAG and Caltrans. Each TSS was qualitatively evaluated against five criteria (Construction/Operational Complexity, Anticipated Environmental Clearance, Right of Way (ROW) impact, Cost, Policy Considerations) and rated based on whether the strategy would lead to low, medium, or high impact on either project delivery or complexity in each evaluated criterion.

Each rating was scored according to the following point system:

- Low impact = 3 points
- Medium impact = 2 points
- High impact = 1 point

The scores were totaled by project, with the highest scores highlighting projects that are the easiest to implement or that have the highest priority.

Additional factors considered included:

Dependencies: Identifies whether an improvement must be preceded by implementation of another project. For example, a project that is phased in the short-term based on the initial implementation criteria may be pushed to a medium-term phase or later if it is dependent upon the implementation of another strategy. The assumption is that one project would be fully built and then another project would begin without developing the project simultaneously at risk.

Implementation Readiness: If current technologies, practices, processes, and/or partnerships are already in place to support project implementation, then the phasing was revised based on this assessment. This includes existing design plans, environmental clearance, or ROW.

Phasing determinations assessed both the TSS score, and the dependencies and implementation readiness considerations for each project, providing a qualitative and quantitative approach.

Implementation criteria and phasing for Mobility Hubs and Flexible Fleets, Next OS, Transit, Complete Corridors/Active Transportation, and Freeway TSS are provided in Table E-22, Table E-23, Table E-24, Table E-25, and Table E-26, respectively.

Table E-22: Mobility Hub and Flexible Fleet TSS Implementation

Mobility Hub and Flexible Fleet TSS Implementation											
Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
MH01	Mobility Hub - All	Wayfinding Signage	Low	Low	Low	Low	Low	No	yes	15	Short
MH02	Mobility Hub - All	Placemaking amenities including resting areas and shade, benches, device charging stations, landscaping and public art	Low	Low	Low	Low	Low	No	yes	15	Short
MH03	PTC Mobility Hub	Parking corrals for shared rideables	Low	Low	Low	Low	Low	No	yes	15	Medium
MH04	PTC Mobility Hub	Lockers for safe retail deliveries	Low	Low	Low	Low	Low	No	yes	15	Medium
MH05	PTC Mobility Hub	Bike lockers and fix-it stations	Low	Low	Low	Low	Low	No	yes	15	Medium
MH06	PTC Mobility Hub	Dynamic / flexible parking	Medium	Low	Low	Low	Medium	No	no	13	Medium
MH07	PTC Mobility Hub	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Medium
MH08	PTC Mobility Hub	TNC / KissNRide dedicated area	Low	Low	Low	Low	Low	No	yes	15	Medium
MH09	Ocean Beach Mobility Node	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
MH10	Ocean Beach Mobility Node	EV and e-bike chargers	Low	Low	Low	Medium	Low	No	yes	14	Short
MH11	Ocean Beach Mobility Node	Lockers for safe retail deliveries	Low	Low	Low	Low	Low	No	yes	15	Short
MH12	Ocean Beach Mobility Node	Bike lockers and fix-it stations	Low	Low	Low	Low	Low	No	yes	15	Short
MH13	Ocean Beach Mobility Node	Dynamic / flexible parking	Medium	Low	Low	Low	Medium	No	no	13	Medium
MH14	Ocean Beach Mobility Node	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Short
MH15	Sports Arena Mobility Node	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
MH16	Sports Arena Mobility Node	EV and e-bike chargers	Low	Low	Low	Medium	Low	No	yes	14	Short
MH17	Sports Arena Mobility Node	Lockers for safe retail deliveries	Low	Low	Low	Low	Low	No	yes	15	Short
MH18	Sports Arena Mobility Node	Bike lockers and fix-it stations	Low	Low	Low	Low	Low	No	yes	15	Short
MH19	Uptown Mobility Node	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
MH20	Uptown Mobility Node	Dynamic / flexible parking	Medium	Low	Low	Low	Medium	No	no	13	Medium

Mobility Hub and Flexible Fleet TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
MH21	Uptown Mobility Node	Bike Lockers and Fix-it Stations	Low	Low	Low	Low	Low	No	yes	15	Short
MH22	Uptown Mobility Node	EV and e-bike chargers	Low	Low	Low	Medium	Low	No	yes	14	Short
MH23	Uptown Mobility Node	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Short
MH24	Downtown/Little Italy Mobility Node	Lockers for safe retail deliveries	Low	Low	Low	Low	Low	No	yes	15	Short
MH25	Downtown/Little Italy Mobility Node	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
MH26	Downtown/Little Italy Mobility Node	Bike Lockers and Fix-it Stations	Low	Low	Low	Low	Low	No	yes	15	Short
MH27	Downtown/Little Italy Mobility Node	Dynamic / flexible parking	Medium	Low	Low	Low	Medium	No	no	13	Medium
MH28	Downtown/Little Italy Mobility Node	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Short
MH29	Downtown/City College Mobility Node	Lockers for safe retail deliveries	Low	Low	Low	Low	Low	No	yes	15	Short
MH30	Downtown/City College Mobility Node	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
MH31	Downtown/City College Mobility Node	Bike Lockers and Fix-it Stations	Low	Low	Low	Low	Low	No	yes	15	Short
MH32	Downtown/City College Mobility Node	Dynamic / flexible parking	Medium	Low	Low	Low	Medium	No	no	13	Medium
MH33	Downtown/City College Mobility Node	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Short
MH34	Downtown/ Imperial Transit Center Mobility Node	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
MH35	Downtown/ Imperial Transit Center Mobility Node	Bike Lockers and Fix-it Stations	Low	Low	Low	Low	Low	No	yes	15	Short

Mobility Hub and Flexible Fleet TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
MH36	Downtown/ Imperial Transit Center Mobility Node	Lockers for safe retail deliveries	Low	Low	Low	Low	Low	No	yes	15	Short
MH37	Downtown/ Imperial Transit Center Mobility Node	Dynamic / flexible parking	Medium	Low	Low	Low	Medium	No	no	13	Medium
MH38	Downtown/ Imperial Transit Center Mobility Node	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Short
MH39	Ocean Beach Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Short
MH40	Ocean Beach Next Gen Rapid Enhanced Stop	Personal device charging stations	Low	Low	Low	Low	Low	No	yes	15	Short
MH41	Ocean Beach Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	Medium	Low	Low	Low	Medium	No	yes	13	Medium
MH42	Ocean Beach Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	Low	Low	Low	Low	Low	No	yes	15	Short
MH43	Ocean Beach Next Gen Rapid Enhanced Stop	Seating and shelter	Low	Low	Low	Low	Low	No	yes	15	Short
MH44	Ocean Beach Next Gen Rapid Enhanced Stop	Bike Racks	Low	Low	Low	Low	Low	No	yes	15	Short
MH45	Ocean Beach Next Gen Rapid Enhanced Stop	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
MH46	Sunset Cliffs Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Short
MH47	Sunset Cliffs Next Gen Rapid Enhanced Stop	Personal device charging stations	Low	Low	Low	Low	Low	No	yes	15	Short
MH48	Sunset Cliffs Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	Medium	Low	Low	Low	Medium	No	no	13	Medium

Mobility Hub and Flexible Fleet TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
MH49	Sunset Cliffs Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	Low	Low	Low	Low	Low	No	yes	15	Short
MH50	Sunset Cliffs Next Gen Rapid Enhanced Stop	Seating and shelter	Low	Low	Low	Low	Low	No	yes	15	Short
MH51	Sunset Cliffs Next Gen Rapid Enhanced Stop	Bike Racks	Low	Low	Low	Low	Low	No	yes	15	Short
MH52	Sunset Cliffs Next Gen Rapid Enhanced Stop	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
MH53	Shelter Island Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Short
MH54	Shelter Island Next Gen Rapid Enhanced Stop	Personal device charging stations	Low	Low	Low	Low	Low	No	yes	15	Short
MH55	Shelter Island Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	Medium	Low	Low	Low	Medium	No	no	13	Medium
MH56	Shelter Island Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	Low	Low	Low	Low	Low	No	yes	15	Short
MH57	Shelter Island Next Gen Rapid Enhanced Stop	Seating and shelter	Low	Low	Low	Low	Low	No	yes	15	Short
MH58	Shelter Island Next Gen Rapid Enhanced Stop	Bike Racks	Low	Low	Low	Low	Low	No	yes	15	Short
MH59	Shelter Island Next Gen Rapid Enhanced Stop	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
MH60	Naval Base Point Loma Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Short

Mobility Hub and Flexible Fleet TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
MH61	Naval Base Point Loma Next Gen Rapid Enhanced Stop	Personal device charging stations	Low	Low	Low	Low	Low	No	yes	15	Short
MH62	Naval Base Point Loma Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	Medium	Low	Low	Low	Medium	No	no	13	Medium
MH63	Naval Base Point Loma Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	Low	Low	Low	Low	Low	No	yes	15	Short
MH64	Naval Base Point Loma Next Gen Rapid Enhanced Stop	Seating and shelter	Low	Low	Low	Low	Low	No	yes	15	Short
MH65	Naval Base Point Loma Next Gen Rapid Enhanced Stop	Bike Racks	Low	Low	Low	Low	Low	No	yes	15	Short
MH66	Naval Base Point Loma Next Gen Rapid Enhanced Stop	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
MH67	Liberty Station Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Short
MH68	Liberty Station Next Gen Rapid Enhanced Stop	Personal device charging stations	Low	Low	Low	Low	Low	No	yes	15	Short
MH69	Liberty Station Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	Medium	Low	Low	Low	Medium	No	no	13	Medium
MH70	Liberty Station Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	Low	Low	Low	Low	Low	No	yes	15	Short
MH71	Liberty Station Next Gen Rapid Enhanced Stop	Seating and shelter	Low	Low	Low	Low	Low	No	yes	15	Short
MH72	Liberty Station Next Gen Rapid Enhanced Stop	Bike Racks	Low	Low	Low	Low	Low	No	yes	15	Short

Mobility Hub and Flexible Fleet TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
MH73	Liberty Station Next Gen Rapid Enhanced Stop	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
MH74	Uptown Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Short
MH75	Uptown Next Gen Rapid Enhanced Stop	Personal device charging stations	Low	Low	Low	Low	Low	No	yes	15	Short
MH76	Uptown Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	Medium	Low	Low	Low	Low	No	no	14	Medium
MH77	Uptown Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	Low	Low	Low	Low	Low	No	yes	15	Short
MH78	Uptown Next Gen Rapid Enhanced Stop	Seating and shelter	Low	Low	Low	Low	Low	No	yes	15	Short
MH79	Uptown Next Gen Rapid Enhanced Stop	Bike Racks	Low	Low	Low	Low	Low	No	yes	15	Short
MH80	Uptown Next Gen Rapid Enhanced Stop	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
MH81	UCSD Medical Center Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Short
MH82	UCSD Medical Center Next Gen Rapid Enhanced Stop	Personal device charging stations	Low	Low	Low	Low	Low	No	yes	15	Short
MH83	UCSD Medical Center Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	Medium	Low	Low	Low	Medium	No	no	13	Medium
MH84	UCSD Medical Center Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	Low	Low	Low	Low	Low	No	yes	15	Short
MH85	UCSD Medical Center Next Gen Rapid Enhanced Stop	Seating and shelter	Low	Low	Low	Low	Low	No	yes	15	Short

Mobility Hub and Flexible Fleet TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
MH86	UCSD Medical Center Next Gen Rapid Enhanced Stop	Bike Racks	Low	Low	Low	Low	Low	No	yes	15	Short
MH87	UCSD Medical Center Next Gen Rapid Enhanced Stop	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
MH88	Downtown / Little Italy Next Gen Rapid Enhanced Stop	Multilingual interactive kiosks	Low	Low	Low	Low	Low	No	yes	15	Short
MH89	Downtown / Little Italy Next Gen Rapid Enhanced Stop	Personal device charging stations	Low	Low	Low	Low	Low	No	yes	15	Short
MH90	Downtown / Little Italy Next Gen Rapid Enhanced Stop	Dynamic / flexible parking	Medium	Low	Low	Low	Medium	No	no	13	Medium
MH91	Downtown / Little Italy Next Gen Rapid Enhanced Stop	TNC / curb drop off dedicated area	Low	Low	Low	Low	Low	No	yes	15	Short
MH92	Downtown / Little Italy Next Gen Rapid Enhanced Stop	Seating and shelter	Low	Low	Low	Low	Low	No	yes	15	Short
MH93	Downtown / Little Italy Next Gen Rapid Enhanced Stop	Bike Racks	Low	Low	Low	Low	Low	No	yes	15	Short
MH94	Downtown / Little Italy Next Gen Rapid Enhanced Stop	Parking corrals for rideables	Low	Low	Low	Low	Low	No	yes	15	Short
FF01	Flexible Fleet - Ocean Beach	Micromobility fleet (shared e-bikes and e-scooter)	Low	Low	Low	Low	Low	No	yes	15	Short
FF02	Flexible Fleet - Ocean Beach	Carshare	Low	Low	Low	Medium	Low	No	yes	14	Medium
FF03	Flexible Fleet - Ocean Beach	Microtransit service from transit to beach	Medium	Low	Low	Medium	Low	No	yes	13	Medium
FF04	Flexible Fleet - Sports Arena	Micromobility fleet (shared e-bikes and e-scooter)	Low	Low	Low	Low	Low	No	yes	15	Short

Mobility Hub and Flexible Fleet TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
	Boulevard										
FF05	Flexible Fleet - Sports Arena Boulevard	Carshare	Low	Low	Low	Medium	Low	No	yes	14	Medium
FF06	Flexible Fleet - Sports Arena Boulevard	Microtransit service from transit to Sports Arena and commercial destinations	Medium	Low	Low	Medium	Low	No	yes	13	Medium
FF07	Flexible Fleet Uptown	Micromobility fleet (shared e-bikes and e-scooter)	Low	Low	Low	Low	Low	No	yes	15	Short
FF08	Flexible Fleet Uptown	Carshare	Low	Low	Low	Medium	Low	No	yes	14	Medium
FF09	Flexible Fleet Uptown	Microtransit service along University	Medium	Low	Low	Medium	Low	No	yes	13	Medium
FF10	Flexible Fleet - Downtown - Little Italy	Micromobility fleet (shared e-bikes and e-scooter)	Low	Low	Low	Low	Low	No	yes	15	Short
FF11	Flexible Fleet - Downtown - Little Italy	Carshare	Low	Low	Low	Medium	Low	No	yes	14	Medium
FF12	Flexible Fleet - Downtown - City College	Micromobility fleet (shared e-bikes and e-scooter)	Low	Low	Low	Low	Low	No	yes	15	Short
FF13	Flexible Fleet - Downtown - City College	Carshare	Low	Low	Low	Medium	Low	No	yes	14	Medium
FF14	Flexible Fleet - Liberty Station Next Gen Rapid Stop	NEV around Liberty Station	Medium	Low	Low	Low	Low	No	no	14	Medium
FF15	Flexible Fleet - Liberty Station Next Gen Rapid Stop	Carshare	Low	Low	Low	Medium	Low	No	yes	14	Medium
FF16	Flexible Fleet - Liberty Station Next Gen Rapid Stop	Micromobility fleet (shared e-bikes and e-scooter)	Low	Low	Low	Low	Low	No	yes	15	Short
FF17	Flexible Fleet - UCSD Medical Center Next Gen Rapid Enhanced Stop	Microtransit service from transit to hospital facility	Medium	Low	Low	Medium	Low	No	yes	13	Medium

Mobility Hub and Flexible Fleet TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
FF18	Flexible Fleet - UCSD Medical Center Next Gen Rapid Enhanced Stop	Carshare	Low	Low	Low	Medium	Low	No	yes	14	Medium
FF19	Flexible Fleet - UCSD Medical Center Next Gen Rapid Enhanced Stop	Micromobility fleet (shared e-bikes and e-scooter)	Low	Low	Low	Medium	Low	No	yes	14	Short

Table E-23: Next OS TSS Implementation

Next OS TSS Implementation											
Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
NO01	Next OS - Data Hub	High-speed data analytics, data repository, and data performance management platform that will bring together public transportation data and develop a public-private information exchange with companies such as transportation network companies and micromobility fleets. Micromobility and other flexible fleets will benefit from a consolidated database given the decentralized nature of the service. In addition, data hub should support complete corridor performance monitoring and metrics to support optimization of dynamic lane management for Active Traffic Management (ATM) and Active Transportation Demand Management (ATMD).	High	Low	Low	Low	Low	Yes, leverage regional implementation	Yes	13	Short
NO02	Next OS - Curb Access and Parking	Dynamic management of curbs including access and pricing rules. Overall functionality to be applied in proximity to neighborhood mobility hubs and where flex lanes are designated. Can also be applied throughout the study area where higher densities of commercial and residential uses occur and the strategy would assist with reducing static parking requirements and allowing increased PUDO (pick-up/drop-off) areas.	Medium	Low	Low	Low	Low	CC10-43	Yes	14	Medium
NO03	Next OS - Transit Optimization	Dynamic transit routing, scheduling, and communications, already some functionality in place regionally, but enhanced optimization would include improved monitoring of traffic conditions and ensuring optimal use of ATDM functions.	High	Low	Low	Low	Low	Yes, leverage regional implementation	Yes	13	Medium
NO04	Next OS - Mobility as a Service App	Application to plan, book, and pay across public and private shared services. Relies on the sharing of information between public and private providers. This function should be provided regionally and leveraged in the study area to promote transit and alternative modes and lower obstacles to greater mode shifts.	High	Low	Low	Low	Low	Yes, leverage regional implementation; MH01	No	13	Short
NO05	Next OS - Smart Intersections - Pacific Highway --1	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	Low	Low	Low	Low	Low		Yes	15	Medium

Next OS TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
NO06	Next OS - Smart Intersections - Pacific Highway --2	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	Low	Low	Low	Low	Low		Yes	15	Medium
NO07	Next OS - Smart Intersections - Rosecrans St	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	Low	Low	Low	Low	Low		Yes	15	Medium
NO08	Next OS - Smart Intersections - Sports Arena Blvd	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	Low	Low	Low	Low	Low		Yes	15	Medium
NO09	Next OS - Smart Intersections - W Point Loma Blvd	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	Low	Low	Low	Low	Low		Yes	15	Medium
NO10	Next OS - Smart Intersections - 5th Ave	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	Low	Low	Low	Low	Low		Yes	15	Medium
NO11	Next OS - Smart Intersections - Barnett Dr	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	Low	Low	Low	Low	Low		Yes	15	Medium
NO12	Next OS - Smart Intersections - W Washington	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	Low	Low	Low	Low	Low		Yes	15	Medium
NO13	Next OS - Smart Intersections - N Harbor Dr	Install smart Intersection technology to give priority to transit, freight and emergency vehicles and reduce intersection conflicts between vehicles, pedestrians, and cyclists, improving safety for vulnerable road users.	Low	Low	Low	Low	Low		Yes	15	Medium

Next OS TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
NO14	Next OS - Next Generation Integrated Corridor Management System	Provide coordinated response and control for real-time operations across freeway, arterials, and transit networks as part of the broader complete corridors concept in the study area. In particular, ICMS functions should support and integrate with the ATM/ATDM features and provide for improved mobility between the designated ATDM and the smart intersection/flex lane facilities under recurring and non-recurring congestion conditions.	High	Low	Low	Low	Low	NO01	Yes	13	Medium
NO15	Next OS - Systems and Software	Enables regional transportation system operators to collect, analyze, and share data to improve transportation systems management and operations. This is a regionally enabled function that would be leveraged by the corridor to support a variety of operations and optimization efforts including optimizing transit service and operations, ATM, ATDM, and monitoring the success of on-going mobility programs.	High	Low	Low	Low	Low	Yes, leverage regional implementation	Yes	13	Medium
NO16	Next OS - Truck Route Data	ATM concepts along the corridor include provisions for a temporal truck lane in areas with significant grades near the Port of San Diego. The scheduled times or actual status of this truck lane should be made available through Next OS to 511SD and associated traveler information systems.	High	Low	Low	Low	Low	NO01, NO55	Yes	13	Medium
NO17	Next OS - Emergency Response and Other Data	Emergency situations and incidents can significantly impact mobility along key portions of the corridor (e.g. open spaces susceptible to wild fires, etc.) that could limit capacity and impact transit services, truck routing, etc. It is important incidents and situations of this sort leverage Next OS to inform all operations centers and private and public mobility operators of the situation to allow for shifts in operations and to inform travelers of viable alternatives to reduce exacerbating impacts of the situation.	High	Low	Low	Low	Low	NO01	Yes	13	Medium
NO18	Next OS - Dynamic Curb Management - Port Transit Center	Physical, signage, and ITS infrastructure at PTC should be implemented to support flexible curb usage and accommodate changing demand. Curb management may be integrated with smart parking solutions where appropriate.	Medium	Low	Low	Low	Low	CC17,	No	14	Medium

Next OS TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
NO19	Next OS - Dynamic Curb Management - Ocean Beach	Physical, signage, and ITS infrastructure at Ocean Beach Mobility Hub should be implemented to support flexible curb usage and accommodate changing demand.	Medium	Low	Low	Low	Low	CC18, CC19, CC20, CC21, CC22, CC23,	No	14	Medium
NO20	Next OS - Dynamic Curb Management - Sports Arena	Physical, signage, and ITS infrastructure in Midway/Sports Arena Mobility Hub should be implemented to support flexible curb usage and accommodate changing demand.	Medium	Low	Low	Low	Low	CC16, CC42, CC43	No	14	Medium
NO21	Next OS - Dynamic Curb Management - Uptown	Physical, signage, and ITS infrastructure at Uptown Mobility Hub should be implemented to support of flexible curb usage and accommodate changing demand. Curb management may be integrated with smart parking solutions where appropriate.	Medium	Low	Low	Low	Low	CC10, CC11, CC12, CC13, CC14, CC15	No	14	Medium
NO22	Next OS - Dynamic Curb Management - Downtown/Little Italy	Physical, signage, and ITS infrastructure at Downtown/Little Italy Mobility Hub should be implemented to support of flexible curb usage and accommodate changing demand. Curb management may be integrated with smart parking solutions where appropriate.	Medium	Low	Low	Low	Low	CC16, CC42, CC43	No	14	Medium
NO23	Next OS - Dynamic Curb Management - Downtown/City College	Physical, signage, and ITS infrastructure at Downtown/City College Mobility Hub should be implemented to support of flexible curb usage and accommodate changing demand. Curb management may be integrated with smart parking solutions where appropriate.	Medium	Low	Low	Low	Low	CC10, CC11, CC12, CC13, CC14, CC15	No	14	Medium
NO24	Next OS - Dynamic Lane Assignment	Part of the ATM/ATDM concept, lanes can be dynamically assigned based on temporal conditions and anticipated demands and traffic types. For ATDM this will typically include bus only lanes or bus and HOV lanes, but can also include HOT/Express Lanes or support Connected Autonomous Vehicle designated lanes. Repurpose road space to reflect current or expected demand conditions.	Medium	Medium	Low	Low	Low	NO40-43	No	13	Medium
NO25	Next OS - Shoulder Running	Part of the ATM/ATDM concept, shoulder running or "all-lanes running" allows for peak period use of shoulder areas as running lanes presuming the shoulders have been properly upgraded and prepared for regular traffic. Shoulder lanes may be used for transit lanes, truck lanes, or additional auxiliary lanes to support transitions to/from major N/S freeway corridors to the SR-52.	Medium	Medium	Low	Low	Medium	NO40-47	No	12	Medium

Next OS TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
NO26	Next OS - Flexible Travel Lanes - Broadway	Flexible Travel lanes to be dynamically reserved for transit, shuttles, rideshare, carshare and/or electric vehicles to relieve congestion and improve travel times.	Medium	Medium	Low	Low	Low	CC10, CC11, CC12, CC13, CC14	Yes	13	Medium
NO27	Next OS - Flexible Travel Lanes - 5th St	Flexible Travel lanes to be dynamically reserved for transit, shuttles, rideshare, carshare and/or electric vehicles to relieve congestion and improve travel times.	Medium	Medium	Low	Low	Low	CC15	Yes	13	Medium
NO28	Next OS - Flexible Travel Lanes - B St	Flexible Travel lanes to be dynamically reserved for transit, shuttles, rideshare, carshare and/or electric vehicles to relieve congestion and improve travel times.	Medium	Medium	Low	Low	Low	CC17	Yes	13	Medium
NO29	Next OS - ATM 1 - All Lanes Running I-5 from I-8 to SR 94	Active Traffic Management 1: Enables the smooth flow of all traffic modes with a few dedicated lanes to HOV and transit, but all lanes open and running with variable speeds. Electronic signage enables use of shoulder areas, as well as enhanced traffic separation prior to major moves to N/S connecting facilities. ATM includes traveler information functions to warn of incidents and other conditions and would be integrated with regional traveler information solutions such as 511SD.	Medium	Low	Low	Low	Medium	NO28, NO30, NO31 VSS, CC01	No	13	Medium
NO30	Next OS - ATDM 1 - All Lanes Running I-5 from I-8 to SR 94	Active Transportation and Demand Management 1: Promote a mode shift and support alternative modes along the corridor by integrating with smart intersections, incentivizing mode shifts, designating special transit lanes and ramp access along the ATM enabled areas of the CMH corridor. All lanes running could include utilizing shoulder lanes for transit during an interim period before managed lanes are in place and continued use could support interchange congestion. ATDM would also include integration with supporting traveler information and trip planning functions regionally as provided through systems such as 511SD and others.	Medium	Low	Low	Low	Medium	TR-15-22	No	13	Medium
NO31	Next OS - ATDM Integration at PTC (Northbound)	In order to support proper access and improve transit service, the configuration of the on-ramps near the proposed PTC location should be adjusted and temporal transit/HOV lanes put in place to support integration of the arterial flex lanes and the ATDM elements on Southbound I-5.	Medium	Low	Low	Low	Medium	TR10, TR15, TR16, TR17, TR18, TR19, TR20, TR21, TR22, TR24, TR25		13	Medium

Next OS TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
NO32	Next OS - ATDM Integration at PTC (Southbound)	In order to support proper access and improve transit service, the configuration of the on-ramps near the proposed PTC location should be adjusted and temporal transit/HOV lanes put in place to support integration of the arterial flex lanes and the ATDM elements on I-5.	Medium	Low	Low	Low	Medium	TR10, TR15, TR16, TR17, TR18, TR19, TR20, TR21, TR22, TR24, TR25		13	Medium
NO33	Next OS - ATDM Integration at PTC (Eastbound)	In order to support proper access and improve transit service, the configuration of the on-ramps near the proposed PTC location should be adjusted and temporal transit/HOV lanes put in place to support integration of the arterial flex lanes and the ATDM elements on I-8.	Medium	Low	Low	Low	Medium	TR10, TR15, TR16, TR17, TR18, TR19, TR20, TR21, TR22, TR24, TR25		13	Medium
NO34	Next OS - Incident Management	Install the systems and ITS to coordinate incident detection, response, and clearing and restore traffic flow quickly and safely. This includes enhancement of camera, vehicle detection, and incident detection systems along SR52 and I-805, as well as improved integrated incident management between State and local agencies along the corridor consistent with emerging TSM&O and ICMS efforts.	High	Low	Low	Low	Low	NO20; Yes, leverage regional implementation	Yes	13	Medium
NO35	Next OS - Incident Response	Systems that prepare and communicate incidents to the community. Responses could dynamically adjust speed, divert or reroute traffic, encourage transit, and reach corridor wide coordination/integration.	High	Low	Low	Low	Low	Yes, leverage regional implementation	Yes	13	Medium
NO36	Next OS - Performance Monitoring	Utilize real-time data (speeds, volumes, vehicle occupancy, VSS compliance) to improve performance of transit, carshare, bikeshare, and traffic flows. This information can be used to point users to mobility alternatives and to enforce ATDM and dynamic lane assignments.	High	Low	Low	Low	Low	Yes, leverage regional implementation	Yes	13	Medium
NO37	Next OS - Performance Assessment, Evaluation, Optimization	Utilize historical data (vehicle classification, speeds, volumes, vehicle occupancy, VSS compliance) to perform system assessments and evaluations to better understand the impact of network changes and events on performance. Optimize system function informed by this analysis.	High	Low	Low	Low	Low	Yes, leverage regional implementation	Yes	13	Medium

Next OS TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
NO38	Next OS - Fleet and Vehicle tracking	Consistent with current practice for bus and BRT systems, automatic vehicle location (AVL) functions help operators and the central management system understand the locations of individual vehicles within a transit network. This informs real-time transit information and should support integrated information between MTS provided services and potential private supporting flex fleet services.	High	Low	Low	Low	Low	Yes, leverage regional implementation	Yes	13	Medium
NO39	Next OS - Passenger Counting	This function helps to understand passenger demand patterns that can be used to adjust and inform service changes and improvements.	Medium	Low	Low	Low	Low	Yes, leverage regional implementation	Yes	14	Medium
NO40	Next OS - Integrated fare payment and trip-planning portal	Off-board fare payment and routing information makes it more seamless for riders using transit. Riders can pay beforehand for their whole trip and receive guided instructions for their trip, particularly if they are using multiple modes. This function should be regionally integrated with the MaaS functions and leveraged within the study area. Account based approaches such as those being rolled out regionally with Pronto could be leveraged.	High	Low	Low	Low	Low	NO04, MH01	Yes	13	Short
NO41	Next OS - Regional Traveler Information/511	Regional traveler information on trip planning, roadway conditions, weather, travel options, congestion, incidents, mobility services, mobility systems status, etc. would be provided for the CCT corridor through regional outlets such as 511SD and other private options receiving data from agency systems. Access to this information would be through multiple means including smartphone apps, web, broadcast through third parties, kiosks at mobility hubs, etc.	High	Low	Low	Low	Low	Yes, leverage regional implementation	Yes	13	Short
NO42	Next OS - Real-time Information	Real-time information allows riders to receive updates on their smartphone or locally placed dynamic signage to know the status of their transit vehicles and ease rider uncertainty.	High	Low	Low	Low	Low	MH01	Yes	13	Short
NO43	Next OS - Wi-Fi	Reliable on-board Wi-Fi is increasingly important as smartphones are widely used and can connect riders to real-time transit information, routing and payment as well for an enhanced experience while riding.	High	Low	Low	Low	Low		Yes	13	Short

Next OS TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
NO44	Next OS - Audio and visual next stop announcements	Consistent with current standard practice ensure all buses and transit are equipped with communication devices to provide next stop announcements letting riders know the next stop and enhancing the customer experience. This feature also helps support the goal of equity for all types of users. This currently exists on MTS fixed route service.	High	Low	Low	Low	Low	Yes, leverage regional implementation	Yes	13	Short
NO45	Next OS - Transportation Management Center	Leverage and operate ATM/ATDM functions through existing operations centers for Caltrans and MTS.	Low	Low	Low	Low	Low	Yes, leverage regional implementation	No	15	Short
NO46	Next OS - Universal Transportation Account	Leverage regional efforts towards an integrated application providing centralized information related to parking, rideable, mobility-on-demand and fixed route transit. This may leverage current account-based solutions such as Pronto (depending on institutional agreements).	Medium	Low	Low	Low	Low	NO04, MH01	Yes	14	Short
NO47	Next OS - Transit Signal Priority	Part of the smart intersection corridors functionality where signal programming allows transit vehicles to be prioritized at crossings/intersections. Shorter travel times and more reliable service could result from the addition of dedicated lanes paired with signal priority during peak travel hours. Should be integrated with physical infrastructure improvements (e.g. Flex Lanes, etc.) where possible.	Medium	Low	Low	Low	Low	NO05-19; Yes, leverage regional implementation	Yes	14	Short
NO48	Next OS - Bike Signal Management	Along key active transportation arterials or in known areas of bicycle/auto conflict issues, bike signals (e.g. the green wave) may be installed to incentivize safe bicycle use as well as prioritize bikes on streets.	Medium	Low	Low	Low	Low	NO05-19; CC10-43	Yes	14	Short
NO49	Next OS - Smart Parking - PTC	Implement smart parking functionality which provides enhanced information on parking availability, time limitations, costs, and payment in conjunction with curb management and mobility hub efforts.	Low	Low	Low	Low	Low		Yes	15	Medium
NO50	Next OS - Smart Parking - Sports Arena	Implement smart parking functionality which provides enhanced information on parking availability, time limitations, costs, and payment in conjunction with curb management and mobility hub efforts.	Low	Low	Low	Low	Low		Yes	15	Short

Next OS TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
NO51	Next OS - Smart Parking - Uptown	Implement smart parking functionality which provides enhanced information on parking availability, time limitations, costs, and payment in conjunction with curb management and mobility hub efforts.	Low	Low	Low	Low	Low		Yes	15	Short
NO52	Next OS - CMH Integrated Management Control Center	Centrally managed command and control center for most if not all different operational elements of the CMH. The control center would allow CMH to centrally integrate and manage the various discrete control systems allowing for analytics for multiple systems and entities, giving a more complete picture of ongoing operations performance by including functions of data management, analytics, visualization, and communications. A digital platform that compiles information from sources like passenger vehicles, delivery trucks, e-bikes, and scooters into a centralized data hub allows operations to be better planned, operated, and experienced.	Low	Low	Low	Low	Low		Yes	15	Medium

Table E-24: Transit TSS Implementation

Transit TSS Implementation												
Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing		
			Construction/Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing	
TR01	Rapid 28	Proposed Rapid route from Point Loma to Kearny Mesa via Central Mobility Hub, Linda Vista	Medium	Medium	Medium	Medium	Medium	Medium	Central Mobility Hub	Yes	10	Short
TR02	Rapid 910	Proposed Rapid route from Coronado to Downtown via Coronado Bridge	Low	Medium	Low	Medium	Low	Low	N/A	Yes	13	Short
TR03	Rapid 120	Proposed Rapid route from Kearny Mesa to Downtown via Mission Valley	Low	Medium	Low	Medium	Low	Low	N/A	Yes	13	Short
TR04	Airport Connection 577	PTC to Airport via Car Rental Lot and Harbor Island East Basin	High	High	Low	High	High	High	Port Transit Center	Yes	7	Long
TR05	Tram 555	Downtown to Logan Heights, Golden Hill, South Park, North Park, University Heights, Hillcrest	High	High	High	High	High	High	N/A	Yes	5	Long
TR06	Route 583	Proposed high speed commuter rail line from the PTC to the U.S. Border via Downtown San Diego	High	High	High	High	High	High	Port Transit Center	Yes	5	Long
TR07	Light Rail Transit PTC to OB	Proposed SPUR light rail transit line from Port Transit Center to Ocean Beach	High	High	High	High	High	High	Port Transit Center	Yes	5	Long
TR09	Rapid 10 Phase 2	La Mesa to Ocean Beach via Mid-City, Hillcrest, Central Mobility Hub (full version of Rapid)	Low	Medium	Medium	Medium	Medium	Medium	Port Transit Center	Yes	11	Medium
TR10	Rapid 12 Phase 2	Spring Valley to PTC via Southeast San Diego (full version of Rapid)	Low	Medium	High	High	Medium	Medium	Port Transit Center, Imperial Transit Center	Yes	9	Medium
TR11	NCTD 398	Update of existing NCTD 398 route to include Stop connection at proposed PTC.	Low	Low	Low	Low	Low	Medium	Port Transit Center	Yes	14	Medium
TR12	Route 10	Update of existing MTS 10 route to include Stop connection at proposed PTC.	Low	Low	Low	Low	Low	Medium	Port Transit Center	Yes	14	Medium

Transit TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
TR13	Route 30	Update of existing MTS 30 route to include Stop connection at proposed PTC.	Low	Low	Low	Low	Medium	Port Transit Center	Yes	14	Medium
TR14	Route 923	Update of existing MTS 923 route to include Stop connection at proposed PTC.	Low	Low	Low	Low	Medium	Port Transit Center	Yes	14	Medium
TR15	Route 992	Update of existing MTS 992 route to include Stop connection at proposed PTC.	Low	Low	Low	Low	Medium	Port Transit Center	Yes	14	Medium
TR16	Rapid 235	Downtown San Diego to Escondido Next Gen Rapid Route. Updated 2021 RP Strategy to extend to PTC via Pacific Hwy	Low	Low	Low	Low	Medium	Port Transit Center	Yes	14	Medium
TR18	Broadway Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along Broadway	Medium	Medium	High	Medium	Medium	N/A	Yes	9	Medium
TR19	B Street Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along Broadway from 16th St to 4th St	Medium	Medium	High	Medium	Medium	N/A	Yes	9	Medium
TR20	N Harbor Drive Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along N Harbor Drive from Rosecrans St to Broadway	Medium	Medium	High	Medium	Medium	N/A	Yes	9	Medium
TR22	Pacific Highway Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along Pacific Hwy from Taylor St to PTC	Medium	Medium	High	Medium	Medium	Rapid 10 Phase 2	Yes	9	Medium
TR23	Pacific Highway Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along Pacific Hwy from Broadway to Laurel St	Medium	Medium	High	Medium	Medium	Rapid 280 Extension	Yes	9	Medium
TR24	Rosecrans Street Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along Rosecrans St from Gate Rd to Barnett Ave	Medium	Medium	High	Medium	Medium	Rapid 28	Yes	9	Medium

Transit TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
TR25	Barnett Avenue Dedicated Transit Lane Segment	Proposed dedicated transit only lane segment along Barnett Avenue from Rosecrans St to Pacific Hwy	High	Medium	High	Medium	Medium	Rapid 29	Yes	8	Medium
TR26	Sports Arena Blvd Dedicated Transit Lane Segment	Proposed dedicated transit lane segment along Sports Arena Boulevard from W Point Loma Dr to Pacific Hwy	Medium	Medium	Medium	Medium	Medium	Rapid 10 Phase 2	Yes	10	Medium
TR27	Point Loma Blvd Dedicated Transit Lane Segment	Proposed dedicated transit lane segment along Point Loma Blvd from Midway Dr to Cable St	Medium	Medium	Medium	Medium	Medium	Rapid 10 Phase 2	Yes	10	Medium
TR28	Hancock Street Dedicated Transit Lane Segment	Proposed dedicated transit lane segment along Hancock St from Rosecrans St to Kurtz St	Medium	Medium	Medium	Medium	Medium	Rapid 10 Phase 2	Yes	10	Medium
TR29	Kurtz Street Dedicated Transit Lane Segment	Proposed dedicated transit lane segment along Kurtz St from Rosecrans St to Hancock St	Medium	Medium	Medium	Medium	Medium	Rapid 10 Phase 2	Yes	10	Medium

Table E-25: Complete Corridors/Active Transportation TSS Implementation

Complete Corridors/Active Transportation TSS Implementation											
Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
AT01	Truxtun Road Bike Boulevard	Barnett Avenue to Laning Road	Medium	Low	Low	Medium	Low	No	Yes	13	Short
AT02	Central Coast Corridor - North Harbor Drive Class I	Spanish Landing Park (West) to World Pier	High	Low	Low	Medium	Low	No	Yes	12	Short
AT03	North Harbor Drive Path / Nimitz Bridge Class I	Stockton Road to North Harbor Drive	High	Low	Low	Medium	Low	No	Yes	12	Long
AT04	Sports Arena Boulevard Class I	Midway Drive to Pacific Highway	High	Low	High	Medium	Low	No	Yes	10	Long
AT05	West Palm Street Class I	Pacific Highway to India Street	High	Low	High	Medium	Low	No	Yes	10	Medium
AT06	Sports Arena Boulevard/Midway Drive Class I	Sports Arena Boulevard to Rosecrans Street	High	Low	High	Medium	Low	No	Yes	10	Long
AT07	Sports Arena Boulevard/Midway Drive Class I	Rosecrans Street to Barnett Avenue	High	Low	High	Medium	Low	No	Yes	10	Long
AT08	Pacific Highway Class I	Rosecrans Street to West Laurel Street	High	Low	High	Medium	Low	No	Yes	10	Long
AT09	Kurtz Street Class II	Sports Arena Boulevard to Rosecrans Street	Low	Low	Low	Medium	Low	No	Yes	14	Medium
AT10	Chatsworth Boulevard/Lytton Street/Barnett Avenue Class II	Catalina Boulevard to Rosecrans Street	Low	Low	Low	Medium	Low	No	Yes	14	Medium
AT11	Laning Road Class II	Rosecrans Street to Historic Decatur Road	Low	Low	Low	Medium	Low	No	Yes	14	Medium
AT12	Sassafras Street Class II	Pacific Highway to India Street	Low	Low	Low	Medium	Low	No	Yes	14	Medium
AT13	Sports Arena Boulevard/Midway Drive Class II	I-8 WB Off-Ramps to Sports Arena Boulevard	Low	Low	Low	Medium	Low	No	Yes	14	Short

Complete Corridors/Active Transportation TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
AT14	Sports Arena Boulevard/Midway Drive Class II	Sports Arena Boulevard to Rosecrans Street	Low	Low	Low	Medium	Low	No	Yes	14	Short
AT15	Sports Arena Boulevard/Midway Drive Class II	Rosecrans Street to Barnett Avenue	Low	Low	Low	Medium	Low	No	Yes	14	Medium
AT16	Taylor Street Class II	Morena Boulevard to Pacific Highway	Low	Low	Low	Medium	Low	No	Yes	14	Short
AT17	Frontier Drive Class II	Hancock Street to Sports Arena Boulevard	Low	Low	Low	Medium	Low	Sports Arena Redevelopment	No	14	Long
AT18	East Drive Class II	Kurtz Street to Sports Arena Boulevard	Low	Low	Low	Medium	Low	Sports Arena Redevelopment	No	14	Long
AT19	San Diego Avenue/India Street Class II (B)	Old Town Avenue to Washington Street	Low	Low	Low	Medium	Low	No	Yes	14	Medium
AT20	Coastal Rail Trail San Diego - Pacific Highway (Fiesta Island to Taylor Street) Class IV	Sea World Drive to Taylor Street	Medium	Low	Low	Medium	Low	No	Yes	13	Long
AT21	Pacific Coast Highway / Central Mobility Bikeway Class IV	Taylor Street to Laurel Street	Medium	Low	Medium	Medium	Low	No	Yes	12	Long
AT22	Coastal Rail Trail San Diego - Pacific Highway (Laurel Street to Santa Fe Depot) Class IV	Laurel Street to Broadway	Medium	Low	Low	Medium	Low	No	Yes	13	Long
AT23	Uptown Bikeways: Washington Street and Mission Valley Bikeways Class IV	Hancock Street to University Avenue	Medium	Low	Medium	Medium	Low	No	Yes	12	Short
AT24	Central Coast Corridor - Nimitz Boulevard Class IV	Sunset Cliffs Boulevard to North Harbor Drive	Medium	Low	Medium	Medium	Low	No	Yes	12	Long

Complete Corridors/Active Transportation TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
AT25	West Point Loma Boulevard / Sports Arena Boulevard Class IV	Sunset Cliffs Boulevard to Pacific Highway	Medium	Low	Low	Medium	Low	No	Yes	13	Medium
AT26	Chatsworth Boulevard/Lytton Street/Barnett Avenue Class IV	Rosecrans Street to Pacific Highway	Medium	Low	Low	Medium	Low	No	Yes	13	Medium
AT27	North Harbor Drive Class IV	Rosecrans Street to West Laurel Street	Medium	Low	Low	Medium	Low	No	Yes	13	Medium
AT28	Laning Road Class IV	Historic Decatur Road to North Harbor Drive	Medium	Low	Low	Medium	Low	No	Yes	13	Medium
AT29	Laurel Street Class IV	Harbor Drive to Pacific Highway	Medium	Low	Medium	Medium	Low	No	Yes	12	Medium
AT30	Laurel Street Class IV	Pacific Highway to State Street	Medium	Low	Medium	Medium	Low	No	Yes	12	Medium
AT31	Hawthorn Street Class IV	Harbor Drive to I-5 NB Ramps	Medium	Low	Medium	Medium	Low	No	Yes	12	Medium
AT32	Grape Street Class IV	Harbor Drive to I-5 NB Ramps	Medium	Low	Medium	Medium	Low	No	Yes	12	Medium
AT33	Sunset Cliffs Boulevard Class IV	I-8 WB Off-Ramps to W Point Loma Boulevard	Medium	Low	Medium	Medium	Low	No	Yes	12	Medium
AT34	Nimitz Boulevard Class IV	Sunset Cliffs Boulevard to North Harbor Drive	Medium	Low	Medium	Medium	Low	No	Yes	12	Medium
AT35	Rosecrans Street Class IV	Pacific Highway to Sports Arena Boulevard	Medium	Low	Low	Medium	Low	No	Yes	13	Long
AT36	Rosecrans Street Class IV	Sports Arena Boulevard to Lytton Street	Medium	Low	Low	Medium	Low	No	Yes	13	Long
AT37	Rosecrans Street Class IV	Lytton Street to North Harbor Drive	Medium	Low	Low	Medium	Low	No	Yes	13	Medium
AT38	Pacific Highway Class IV	Rosecrans Street to West Laurel Street	Medium	Low	Low	Medium	Low	No	Yes	13	Medium
AT39	Kettner Boulevard/Hancock Street Class IV	Northern terminus to West Laurel Street	Medium	Low	Low	Medium	Low	No	Yes	13	Medium
AT40	San Diego Avenue/India Street Class IV	Washington Street to West Laurel Street	Medium	Low	Low	Medium	Low	No	Yes	13	Medium
AT41	State Street Class	Hawthorn Street to Ash Street	Medium	Low	Low	Medium	Low	No	Yes	13	Medium

Complete Corridors/Active Transportation TSS Implementation

Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing	
			Construction/ Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing
AT42	PTC/W Palm Street Pedestrian Bridge	PTC CMH (western edge of Kettner Blvd) to India Street	High	Low	Low	High	Low	No	No	11	Long

Table E-26: Freeway TSS Implementation

Freeway TSS Implementation												
Refined Strategy ID	Strategy Name	Description	Implementation Criteria (Scoring)					Additional Implementation Factors		Points & Phasing		
			Construction/Design Complexity	Environmental Clearance	ROW	Cost	Policy Considerations	Dependencies (if Yes, list)	Implementation Readiness (Yes/No)	Points (5-15)	Phasing	
CC-01	I-5 Managed Lanes	Convert two existing general-purpose lanes to managed lanes and add two additional managed lanes	High	High	High	High	Low			Yes	7	Medium
CC-02	I-5 Managed Lanes	Convert two existing general-purpose lanes to managed lanes and add two additional managed lanes	High	High	High	High	Low			Yes	7	Medium
CC-03	I-8 Managed Lanes	Convert two existing general-purpose lanes to managed lanes and add two additional managed lanes	High	High	High	High	Low			Yes	7	Medium
CC-04	SR 163 Managed Lanes	Convert two existing general-purpose lanes to managed lanes	High	High	High	Medium	Low			Yes	8	Medium
CC-05	SR 163 Southbound Managed Lanes Phase 1	Convert southbound shoulder/median to managed lane on southbound SR 163	High	High	High	Medium	Low			Yes	8	Medium
CC-06	I-5/I-8 ML Connectors	South to East and West to North	High	High	High	High	Low		CMH-RF01, CMH-RF02	Yes	7	Medium
CC-07	I-5/I-8 ML Connectors	North to East and West to South	High	High	High	High	Low		CMH-RF01, CMH-RF02	Yes	7	Medium
CC-08	Complete Corridor: Airport Connectivity	Airport Connectivity including Laurel Street airport entrance, Laurel Street modifications (Pacific Highway to I-15), and new I-5 freeway ramps at Laurel Street and Redwood	High	High	High	High	Low			Yes	7	Medium
CC-09	I-5 at Old Town Avenue Interchange reconfiguration	Reconfigure Old Town Avenue Interchange	High	High	High	High	Low			Yes	7	Medium
CC-10	I-5 DAR at Port Transit Center	Reconstruct SB Sassafras St exit ramp with access to Port Transit Center	High	High	High	Medium	Low			Yes	8	Medium

E.4. Funding Sources

Introduction

Funding for transportation improvements and enhancements is available through several federal, state, local, and non-traditional sources, and programs. Depending on the source, eligible projects vary by transportation mode, scope, and project phase.

There are two main types of grants available for transportation solutions within the CMH and Connections CMCP: discretionary and formula. Discretionary grants permit the agency to exercise judgment in selecting recipients through a competitive grant process. For formula funds, the award amount is calculated by formulas and statutes that favor statistical criteria for specific types of work. Formula funds are distributed by formula to state, regional, or local public agencies.

Federal Funding Sources

Federal transportation funding is administered by the U.S. Department of Transportation (DOT) and authorized by federal transportation bills. The most recent federal transportation funding bill—the Infrastructure Investment and Jobs Act (IIJA)—was signed into law in 2021. A significant portion of the funding available through the U.S. DOT’s Highway Trust Fund is allocated to California based on the state’s population.

The state of California distributes U.S. DOT funds to local agencies, by formula or by discretionary means, through competitive grant programs. The majority of federal resources in California are available through the Surface Transportation Improvement Program (STIP). Additionally, federal and state funding sources for bicycle and pedestrian projects are consolidated under California’s Active Transportation Program (ATP) and distributed through a competitive process.

There are several federal discretionary grant programs available for local agencies to apply for funding, including Rebuilding American Infrastructure with Sustainability and Equity (RAISE), Infrastructure for Rebuilding America (INFRA), Rural Surface Transportation Grant (RURAL), the Mega Grant (MEGA; statutorily known as the National Infrastructure Project Assistance Program), among others. All of these programs have received significant levels of funding through IIJA, and many of the TSS in this CMCP are eligible for these funds.

The Transportation Infrastructure Finance and Innovation Act (TIFIA) Program is an available option to help finance transportation projects. The TIFIA Program provides federal credit assistance to eligible surface transportation projects, including highway and transit projects of regional or national significance. These grant programs—and others available from specific U.S. DOT operating administrations—provide opportunities for local and regional agencies to apply for substantial funding for regionally significant projects.

State Funding Sources

In addition to federal grant programs, there are several state funding sources for local and regional transportation projects that are available to public agencies. This CMCP makes the Central Mobility Hub and Connections corridor transportation solutions eligible for funding from California Senate Bill 1 (SB 1), the Road Repair and Accountability Act of 2017, which is a \$54 billion-dollar landmark investment package that spans a 10-year period. It is focused on fixing roads, freeways, and bridges in communities across California and increasing funding to transit and safety.

SB 1 augmented other sources of funding, such as the Active Transportation Program (ATP) and State Highway Operation and Protection Program (SHOPP) and created new and relevant funding programs such as the Solutions for Congested Corridors Program (SCCP) and Trade Corridor Enhancement Program (TCEP). Both SCCP and TCEP have statutory requirements for comprehensive corridor plans utilized by agencies to apply for funding.

Local Funding Sources

The primary local funding source for transportation solutions in the San Diego Region is the *TransNet* program, which is a voter-approved half-cent sales tax used for transportation purposes. Originally approved in 1987, voters approved an extension ordinance in 2004 that prolongs the *TransNet* program to 2048. *TransNet*, administered by SANDAG, has funded more than 650 highway, transit, bicycle and pedestrian, habitat conservation, and local street repair projects totaling more than \$13.7 billion.

As part of the *TransNet* program, SANDAG has identified a variety of high-priority, *TransNet*-funded transportation improvements for the region. These prioritized infrastructure projects are part of the Early Action Program to accelerate the implementation of roadway, structures, and transit projects.

TransNet also provides funding for two competitive grant programs that support local efforts to increase walking, biking, and the use of transit throughout the region: the Smart Growth Incentive Program (SGIP) and Active Transportation Grant Program (ATGP). The SGIP provides funding for transportation-related services and infrastructure improvements and planning efforts that will assist local agencies in better integrating transportation and land use, consistent with the Regional Plan and Sustainable Communities Strategy and community planning efforts related to smart growth and improved land use/transportation coordination. The goal of the ATGP is to encourage local jurisdictions to plan and build facilities that promote multiple travel choices and increase connectivity to transit, schools, retail centers, parks, work, and other bike parking, education, encouragement, and awareness programs that support pedestrian and bike infrastructure.

Another local sales tax funding source includes the Transportation Development Act (TDA), which is a statewide one-quarter percent sales tax to be used for transportation purposes. In the San Diego region, the TDA program is administered by SANDAG and used exclusively for transit, non-motorized, and regional planning purposes. Other local funding mechanisms include developer impact fees, city-county gas taxes, and general fund revenues.

Table E-27: Funding Sources

Funding Sources			
Source	Program	Type	Eligible Projects
Federal	Rebuilding American Infrastructure with Sustainability and Equity (RAISE)	Discretionary	Helps communities fix and modernize their infrastructure and can be used for a wide variety of transportation projects that have a significant local or regional impact.
Federal	Infrastructure for Rebuilding America (INFRA)	Discretionary	Funds highway, multimodal freight and rail projects that are focused on improving safety, generation economic benefits, reducing congestion and enhancing resiliency.
Federal	National Infrastructure Project Assistance (MEGA)	Discretionary	Major projects that are too large or complex for traditional funding programs including multijurisdictional or regional projects of significance that may cut across multiple modes of transportation. Eligible modes include highway, bridge, freight, port, passenger rail, and public transportation projects.
Federal	Strengthening Mobility and Revolutionizing Transportation (SMART)	Discretionary	Provides competitive grants for projects that improve transportation safety and efficiency
Federal	Promoting Resilient Operations for Transformative, Efficient, Cost-saving Transportation (PROTECT)	Formula	Public transit, passenger rail, bridge, drinking and wastewater infrastructure. Clean energy transmission and electric vehicle infrastructure. Helps communities ensure access to reliable high-speed internet.
Federal	Advanced Transportation and Innovative Mobility Deployment (ATTAIN)	Discretionary	Provides grants to deploy, install, and operate advanced transportation technologies to improve safety, mobility, efficiency, system performance, intermodal connectivity.
State	Active Transportation Program (ATP)	Discretionary	Bicycle and pedestrian improvements and planning focused on safety and benefits for disadvantaged communities.
State	California Energy Commission Clean Transportation Program	Discretionary	This program offers several grant programs for EV charging infrastructure to support passenger vehicles, freight, and buses.
State	State Highway Operation and Protection Program (SHOPP)	Formula	Capital improvements relative to the maintenance, safety, operation and rehabilitation of the state highway system that do not add capacity.
State	State Transportation Improvement	Formula	State transportation funds for state highway improvements, intercity rail, and regional highway and transit improvements. Projects

Funding Sources

Source	Program	Type	Eligible Projects
	Program (STIP)		funded are proposed by regional transportation agencies and approved by the California Transportation Commission on a biannual basis.
State	Solutions for Congested Corridors (SCCP)	Discretionary	Projects listed in a Comprehensive Corridor Plan that achieve a balanced set of transportation, environmental and community access improvements to reduce congestion.
State	Trade Corridor Enhancement Program (TCEP)	Discretionary	Provides funding for infrastructure improvements to federally designated trade corridors of national and regional significance.
Local	SANDAG Smart Growth Incentive Program (SGIP)	Discretionary	Comprehensive public infrastructure projects and planning activities that facilitate compact, mixed-use, transit-oriented development and increase housing and transportation choices.
Local	SANDAG Active Transportation Grant Program (ATGP)	Discretionary	Pedestrian and bicycle infrastructure.
Local	Transportation Development Act (TDA)	Tax	One quarter percent state and local sales tax collected in San Diego County is allocated to transit, bicycle, pedestrian.