Appendix B

Summary of Recommendations by Expressway

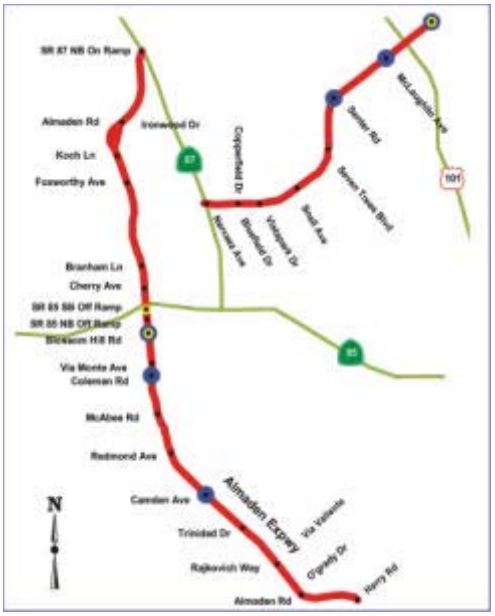
Almaden Expressway

Vision

High-end express arterial with freeway-like segments.

Expressway Characteristics

- 8.5 miles long
- 4-8 lanes wide
- 19 signalized intersections
- 2 freeway connections (SR 85, SR 87)
- 1 city served (San Jose)
- 150,000 vehicles use Almaden daily
- 2 LOS F intersections in 2001/2002
- 3 LOS F intersections projected in 2025



Roadway Capacity and Operational Improvements

The roadway improvement projects recommended for Almaden Expressway are listed below:

Tier Priority	Project Description (1)	Cost (millions)
Measure B/ Property Developer	Provide additional NB through lane on Almaden at Blossom Hill and SR 85 NB off-ramp intersections plus additional SB through lane on Almaden at Branham and Cherry intersections with additional left-turn lane at all four approaches at Cherry intersection	N.A.
1A	Widen to 8 lanes between Coleman and Blossom Hill including an additional left-turn lane from SB Almaden to Coleman and from EB and WB Coleman to Almaden, and a right-turn lane from WB Coleman to NB Almaden; a 4th SB and NB through lane on Almaden at Via Monte; and an additional left-turn (a total of three) from SB Almaden to EB Blossom Hill and an additional SB through lane at Blossom Hill intersection	$6-8
1A	Initiate a Caltrans Project Study Report (PSR)/Project Development Study (PDS) to reconfigure SR 85/Almaden interchange	$.25
1A	Provide interim operational improvements at SR 85/Almaden: widen SB Almaden to provide a 5th lane between the Best Buy driveway and SB loop on-ramp serving as auxiliary lane for weaving vehicles; widen SB SR 85 off-ramp to add a third left-turn; provide an additional EB approach lane resulting in two left-turn, one through/right shared, and two right-turn lanes	$2
1C	Widen to 6 lanes starting south of Camden to conform with the current 6-lane segment south of Redmond with additional left-turn lane from EB and WB Camden to Almaden	$5-6
2	Widen to 6 lanes from Almaden Road to south of Camden	$10
3	Modify the SR 85/Almaden interchange to a par-clo type with loops in the NE and SE quadrants	$20

(1) When funding is obtained, each project will undergo design, environmental review, and community outreach as appropriate. Project descriptions will be changed as needed based on the results of these activities.

NOTE:

Implementation of an extension of Almaden Expressway to Bailey Avenue and additional improvements for the existing Almaden Expressway will be determined by City of San Jose land use decisions.

Total Tier 1A	$8.25-10.25
Total Tier 1C	$5-6
Total Tier 2	$10
Total Tier 3	$20
Total	**$43.25-46.25**

Effectiveness of Roadway Improvements

- Expressway south of SR 85 would improve from LOS E to LOS D and north of SR 85 would continue to operate at LOS C or better.
- All existing and projected LOS F intersections would be improved to LOS E or better.

Bicycle Improvements

- All necessary re-striping to bring Almaden Expressway into compliance with the Bicycle Accommodation Guidelines (BAG) will be completed as part of a systemwide re-striping project.
- Shoulder widening is needed between Ironwood and Koch for a total cost of $2.0 million. $1.6 million is funded by a grant creating a net need of $0.4 million.

Pedestrian Improvements

Almaden has a generally continuous pedestrian system using sidewalks and parallel facilities.

- Seven pedestrian crossing enhancement locations were identified for trail, school, bus stop, and commercial access: O'Grady/Almaden, Via Valiente, Trinidad, Camden, Redmond, McAbee/Winfield, and Branham. Total potential cost is $1.4 million.
- A new pedestrian overcrossing (POC) is recommended near Coleman to connect trails and provide access to the Almaden light rail station. Estimated cost is $4.0 million.
- New sidewalks are recommended at the following locations:

New Sidewalk Locations	Project Need	Cost (millions)
NW quadrant at Camden	Gap closure	$0.08
NE of Redmond	Gap closure	$0.15
NE of McAbee	Gap closure	$0.08
NE of Coleman	Gap closure	$0.23
NE of Via Monte	Gap closure	$0.15
SE of Cherry	Gap closure	$0.16
NW of Branham	Connect to parallel path	$0.06
NE of Koch	Connect to parallel path	$0.04
	Total	**$0.95**

Sound Wall Improvements

The Plan recommends both new sound walls and higher replacement walls at certain locations to meet noise standards. Recommendations are as follows:

Sound Wall Project Description	Cost (millions)
From Almaden/O'Grady to south of Camden • Higher replacement walls along east side between Winfield and Redmond, and new walls between the existing and replacement walls • Higher replacement and new walls SE of Trinidad	$0.69
Between Coleman and SR 85 • New walls NE of Foxchase and west side between Mesa and Coleman	$0.34
Between SR 85 and SR 87 • New walls NE and SE of Koch and SW of Cherry • Higher replacement walls SW of Koch and NW of Cherry	$4.54
Total	**$5.6**

Total Other Capital Costs

The bicycle, pedestrian, and sound wall improvements recommended for Almaden total $12.35 million. $2.32 million of these costs are included in roadway project costs for a net need of $10.03 million.

Other Improvements

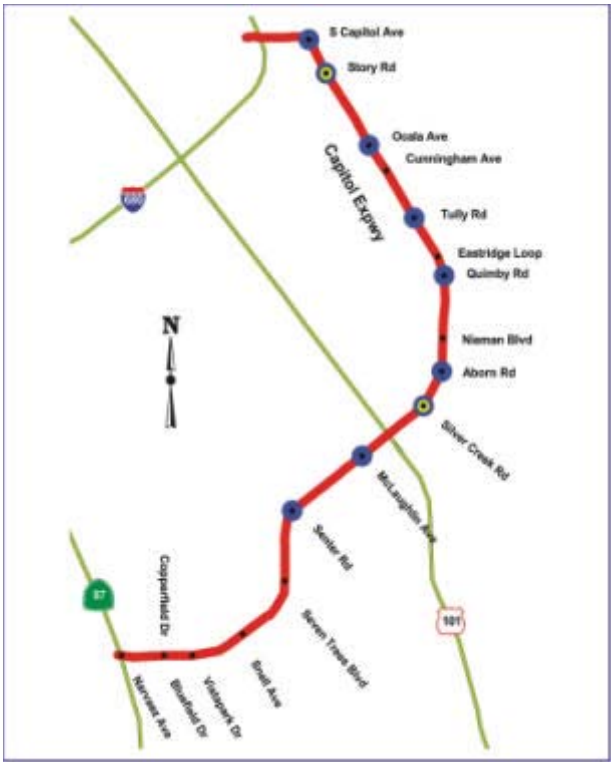
The *Implementation Plan* also includes recommendations for systemwide improvements in signal operations, landscaping, and maintenance (such as sweeping, pavement maintenance, graffiti removal, replacing aging sidewalks and sound walls). These recommendations apply to all expressways. For more information about these systemwide improvements, please see the following sections:

- Section 4 "Signals/Traffic Operations System (TOS)"
- Section 8 "Finishing Program" (includes landscaping discussion)
- Section 9 "Maintenance and Operations"

Capitol Expressway

Vision

Corridor in transition to high-capacity arterial with light rail transit in median.



Expressway Characteristics

- 8.7 miles long
- 6-8 lanes wide, including HOV lanes
- 18 signalized intersections
- 3 freeway connections (SR 87, US 101, I-680)
- 1 city served (San Jose)
- 300,000 vehicles use Capitol daily
- 2 LOS F intersections in 2001/2002
- 9 LOS F intersections projected in 2025

Roadway Capacity and Operational Improvements

The roadway improvement projects recommended for Capitol Expressway are listed below:

Tier Priority	Project Description (1)	Cost (millions)
N.A.	Story to Nieman (2)	TBD
1B	Interchange at Silver Creek (3)	$50-60
1C	Provide a third left-turn lane from SB Senter to EB Capitol	$4.5
1C	Provide a third left-turn form SB McLaughlin to EB Capitol (3)	$3.5
1C	Provide a third left-turn lane from NB Aborn to WB Capitol and a second right-turn lane from EB Capitol to SB Aborn (3)	$5-6
1C	Provide a third left-turn shared with through lane from SB Capitol Avenue to the SB expressway	$2
3	Freeway/expressway direct connector HOV ramps at US 101	$20-30

Total Tier 1B	$50-60
Total Tier 1C	$15-16
Total Tier 3	$20-30
Total	**$85-96**

(1) When funding is obtained, each project will undergo design, environmental review, and community outreach as appropriate. Project descriptions will be changed as needed based on the results of these activities.

(2) Any potential roadway improvements for the Story to Nieman segment of Capitol Expressway will be determined through coordination with VTA's light rail project and San Jose's policies. The light rail project Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) to the Federal Transit Administration (FTA) will be released in late-2003.

(3) Actual improvements and cost estimates for the McLaughlin to Aborn segment of Capitol Expressway will be identified through VTA's US 101 Central Corridor Study to be completed by the end of 2003 or early 2004. Projects for McLaughlin, Silver Creek, and Aborn are listed here as placeholders.

Effectiveness of Roadway Improvements

- Projected LOS information for the expressway north of Nieman to I-680 is not available since the future conditions with the planned LRT in place have not yet been fully defined.
- The expressway from Nieman to McLaughlin would improve from LOS F to LOS E and from McLaughlin to SR 87 would continue to operate at LOS D.
- All existing and projected LOS F intersections from Nieman to SR 87 would be improved to LOS E or better.

Bicycle Improvements

- All necessary re-striping to bring the expressway into compliance with the Bicycle Accommodation Guidelines (BAG) will be completed as part of a systemwide re-striping project.
- Specific bicycle improvements for the Story to Nieman area are being determined by the light rail project.
- Shoulder widening is needed on the westbound approach at Silver Creek to provide a bicycle slot for a cost of $0.2 million.

Pedestrian Improvements

The pedestrian plan for Capitol calls for sidewalks along almost the entire length of the expressway except in the Story to Nieman area where the light rail project is planning to provide a wide multi-use path along one side of the roadway.

- Seven pedestrian crossing enhancement locations were identified for school, bus stop, and commercial access: Bluefield, Vista Park, Snell, Seven Trees, Senter, Silver Creek, and Aborn. Total potential cost is $1.4 million.
- New sidewalk recommendations include:

New Sidewalk Location	Project Need	Cost (millions)
Vista Park to SR 87, south side	Gap closure	$0.41
SW of Snell to SE of Monterey	Gap closure	$0.41
Seven Trees to Senter, west side & SE of Senter	Gap closure & connect to parallel path	$0.63
NE of Senter to NW of McLaughlin along Coyote Creek Park, north side	Connect to parallel path	$0.21
SW of Quimby	Gap closure	$0.41
Capitol Ave to I-680, west side	Connect to parallel path	$0.36
	Total	**$2.43**

Sound Wall Improvements

Sound wall needs for the area between Story and Nieman will be determined by the light rail project. The Plan recommends both new sound walls and higher replacement walls at certain locations to meet noise standards. Recommendations are as follows:

Sound Wall Project Description	Cost (millions)
Between SR 87 and US 101 • New walls along NE and SE of Senter, SW of Seven Trees, NW and SE of Vista Park, gap closure on south side between Vista Park and Bluefield, and NW of Bluefield • Higher replacement wall SE of Seven Trees	$3.46
New walls for gap closure between I-680 and Capitol Avenue.	$0.28
Total	**$3.74**

Total Other Capital Costs

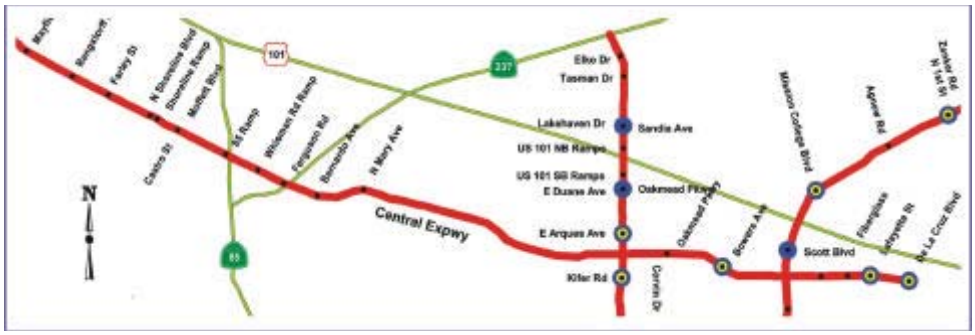
The bicycle, pedestrian, and sound wall improvements recommended for Capitol total $7.77 million. $1.16 million of these costs are included in roadway project costs for a net need of $6.61 million.

Other Improvements

The *Implementation Plan* also includes recommendations for systemwide improvements in signal operations, landscaping, and maintenance (such as sweeping, pavement maintenance, graffiti removal, replacing aging sidewalks and sound walls). These recommendations apply to all expressways. For more information about these systemwide improvements, please see the following sections:

- Section 4 “Signals/Traffic Operations System (TOS)”
- Section 8 “Finishing Program” (includes landscaping discussion)
- Section 9 “Maintenance and Operations”

Central Expressway



Vision

High-end express arterial with freeway-like segments.

Expressway Characteristics

- 9.6 miles long
- 4-6 lanes wide
- 17 signalized intersections
- Access to 3 freeways (US 101, SR 237, SR 85) and 2 expressways (San Tomas, Lawrence)
- 5 cities served (Palo Alto, Mountain View, Sunnyvale, Santa Clara, San Jose)
- 110,000 vehicles use Central daily
- 3 LOS F intersections in 2001/2002
- 3 LOS F intersections projected in 2025

Roadway Capacity and Operational Improvements

The roadway improvement projects recommended for Central Expressway are listed below:

Tier Priority	Project Description (1)	Cost (millions)
1A	Widen between Mary and Lawrence to provide auxiliary and/or acceleration/deceleration lanes to improve ramp operations and safety (2)	$13
1A	Widen to 6 lanes between Lawrence and San Tomas Expressways without HOV lane operations (3)	$10
1A	Convert the Measure B HOV lane widening between San Tomas and De La Cruz to mixed flow and remove the HOV queue jump lanes at Scott, if unsuccessful after a 3 to 5 year trial period (3)	$0.1
2	Interchange at Rengstorff (4)	$60
2	Depress Central at light rail crossing near Whisman	$35
2	At-grade improvements or interchange at Mary (5)	$4-50
2	Interchange at Bowers	$45

Total Tier 1A	$23.1
Total Tier 2	$144-190
Total	**$167.1-213.1**

(1) When funding is obtained, each project will undergo design, environmental review, and community outreach as appropriate. Project descriptions will be changed as needed based on the results of these activities.

(2) May also include a turning lane improvement at Central/Mary; this needs to be determined during project design.

(3) The existing LOS F intersections between Lawrence Expressway and De La Cruz will be mitigated if the widening is operated as mixed-flow. If the new lanes between San Tomas and De La Cruz remain designated as HOV after the trial period and the widening between Lawrence and San Tomas is operated as HOV lanes, then interchanges will be required at 2 of the LOS F intersections (Bowers and Lafayette) and will need to be placed in Tier 1B.

(4) Mountain View is pursuing options for grade separating the Caltrain railroad tracks from Rengstorff Avenue. If this project is built, the signalized intersection at Central and Rengstorff may degrade to LOS F, in which case the Central/Rengstorff interchange project will move into Tier 1B.

(5) Local and regional LOS standards are not projected to be violated at the Central/Mary intersection within the timeframe of the plan.

Effectiveness of Roadway Improvements

- Expressway east of Lawrence would improve from LOS F to LOS D and west of Lawrence would remain LOS C or better.
- All existing and projected LOS F intersections would be improved to LOS E or better.

Bicycle Improvements

All necessary re-striping to bring the expressway into compliance with the Bicycle Accommodation Guidelines (BAG) will be completed as part of a systemwide re-striping project.

Pedestrian Improvements

Central through Santa Clara and Sunnyvale has wide shoulders for emergency and occasional pedestrian use. In Mountain View, an incomplete system of sidewalks, informal paths, and parallel facilities are available for travel along the expressway.

- Four pedestrian crossing enhancement locations were identified for commercial and transit center access: Castro, Bernardo, Mary and Bowers. Total potential cost is $0.8 million.
- New sidewalk recommendations include:

New Sidewalk Location	Project Need	Cost (millions)
NW of Mayfield	Gap closure	$0.05
Moffett to Rengstorff, north side	Gap closure	$0.90
Whisman to NW of SR 85, north side	Neighborhood circulation	$0.41
NE of Mary	Connection to bus stop and businesses	$0.05
Bowers to Oakmead, south side	Business access	$0.41
SW quadrant at De La Cruz	Gap closure	$0.05
	Total	**$1.87**

Sound Wall Improvements

The Plan recommends both new soundwalls and higher replacement walls at certain locations to meet noise standards. Recommendations are as follows:

Sound Wall Project Description	Cost (millions)
From west of Rengstorff to SR 85 • New walls along north side from Rengstorff to Shoreline, NW and NE of Moffett	$2.33
North side between SR 85 and Whisman	$0.63
From Mary to Lawrence • New walls SE of Pastoria, NE of Mathilda, and south side between Mathilda and Fair Oaks • Higher replacement wall along south side between Mary and Potrero, and SW of Pastoria	$2.14
Total	**$5.1**

Total Other Capital Costs

The pedestrian and sound wall improvements recommended for Central total $7.77 million. $2.95 million of these costs are included in roadway project costs for a net need of $4.82 million.

Other Improvements

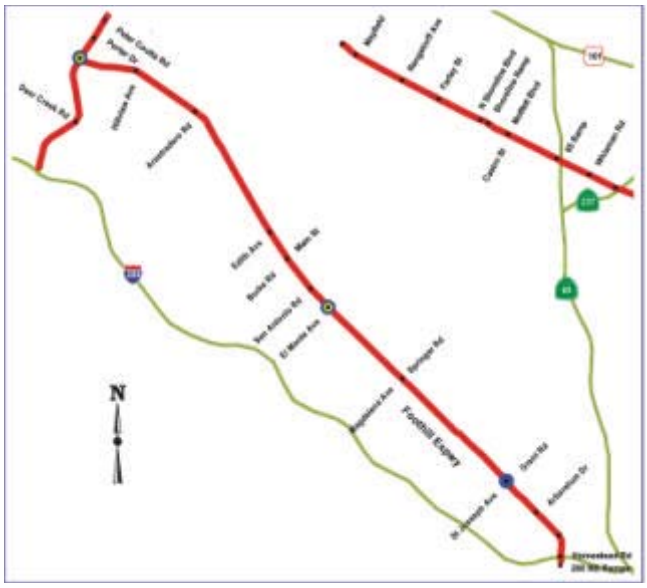
The *Implementation Plan* also includes recommendations for systemwide improvements in signal operations, landscaping, and maintenance (such as sweeping, pavement maintenance, graffiti removal, replacing aging sidewalks and sound walls). These recommendations apply to all expressways. For more information about these systemwide improvements, please see the following sections:

- Section 4 “Signals/Traffic Operations System (TOS)”
- Section 8 “Finishing Program” (includes landscaping discussion)
- Section 9 “Maintenance and Operations”

Foothill Expressway

Vision

Attractive express arterial, not freeway-like, that also plays an important role as a regional bicycle facility.



Expressway Characteristics

- 7.3 miles long
- 4 lanes wide
- 11 signalized intersections
- 1 freeway connection (I-280)
- 4 cities served (Cupertino, Los Altos, Los Altos Hills, Palo Alto)
- 110,000 vehicles use Foothill daily
- 1 LOS F intersections in 2001/2002
- 2 LOS F intersections projected in 2025

Roadway Capacity and Operational Improvements

The roadway improvement projects recommended for Foothill Expressway are listed below:

Tier Priority	Project Description (1) (2)	Cost (millions)
Expressway Study	Updated signal timing plan from Magdalena to Edith	N.A.
1A	Signal operational improvements between Edith and El Monte including adjacent side street intersections at Grant/St. Joseph	$1.5
1A	Extend existing WB deceleration lane at San Antonio by 250 feet	$0.5
1A	Replace Loyola Bridge (This improvement project should also provide necessary bicycle and pedestrian facilities, and channelization and operational improvements at adjacent intersections.)	$10
	Total Tier 1A	$12
	Total	**$12**

(1) When funding is obtained, each project will undergo design, environmental review, and community outreach as appropriate. Project descriptions will be changed as needed based on the results of these activities.

(2) The Foothill/Page Mill intersection (an existing and 2025 LOS F intersection) is listed as part of Oregon-Page Mill Expressway.

Effectiveness of Roadway Improvements

Foothill Expressway would continue to operate at LOS D and all existing and project LOS F intersections would be improved to LOS E or better.

Bicycle Improvements

- All necessary re-striping to bring Foothill Expressway into compliance with the Bicycle Accommodation Guidelines (BAG) will be completed as part of a systemwide re-striping project.
- Shoulder widening is needed at the following locations:

Bicycle Improvement Location	Project Description	Cost (millions)
San Antonio	Widen WB approach for approximately 300 feet to provide a bicycle slot	$0.20
Magdalena	Widen EB approach for approximately 600 feet to provide a bicycle slot	$0.30
Loyola	Provide more shoulder width in both directions under the Loyola Bridge	N.A. (1)
	Total	**$0.50**

(1) Must be completed as part of overall bridge reconstruction project (Tier 1A in Capacity/Operational Improvement Element)

Pedestrian Improvements

Foothill has wide shoulders for emergency and occasional pedestrian use. It also has long stretches of frontage roads for pedestrian travel. Improvement recommendations include:

- Two pedestrian crossing enhancement locations were identified for school, park, and commercial access: St. Joseph/Grant and Main/Burke. Total potential cost is $0.4 million. Crossing improvements for the El Monte, Magdalena, and Homestead intersections are already being made as part of the Safe Routes to Schools Program or Measure B Sales Tax Program.
- A new sidewalk southwest of Magdalena with connection to Boulder frontage road for a cost of $0.05 million.

Sound Wall Improvements

The Plan recommends both new sound walls and higher replacement walls at certain locations to meet noise standards. Recommendations are as follows:

Sound Wall Project Description	Cost (millions)
Spot improvements along the expressway • New walls on north side near Arroyo and adjacent to residences along Blue Oak, NW of El Monte, north side between El Monte and Springer, south side west of Springer and between Springer and east of Loyola, north side west and east of Grant, and south side between St. Joseph and Vineyard • Higher replacement wall NE of Loyola/Fremont	$8.84

Total Other Capital Costs

The bicycle, pedestrian, and sound wall improvements recommended for Foothill total $9.79 million. $0.2 million is included in roadway project costs for a net need of $9.59 million.

Other Improvements

The *Implementation Plan* also includes recommendations for systemwide improvements in signal operations, landscaping, and maintenance (such as sweeping, pavement maintenance, graffiti removal, replacing aging sidewalks and sound walls). These recommendations apply to all expressways. For more information about these systemwide improvements, please see the following sections:

- Section 4 "Signals/Traffic Operations System (TOS)"
- Section 8 "Finishing Program" (includes landscaping discussion)
- Section 9 "Maintenance and Operations"

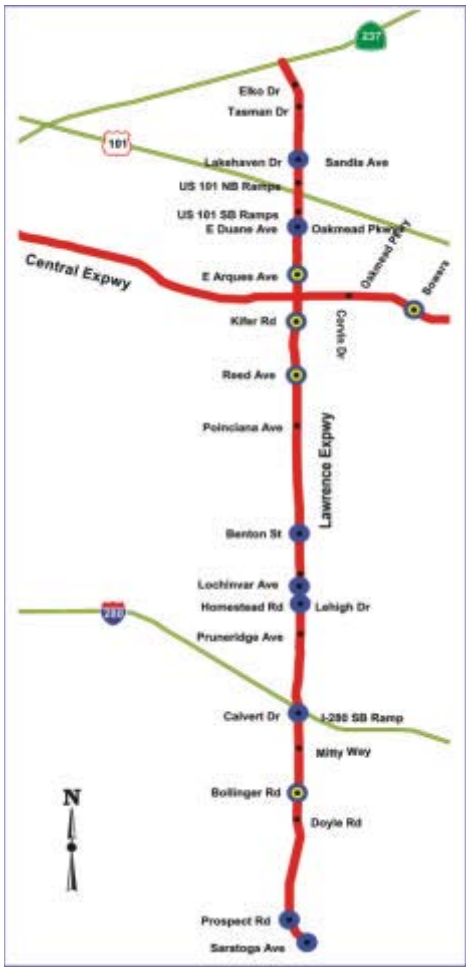
Lawrence Expressway

Vision

Southern end more arterial-like; mid-section more high-end expressway with freeway-like segments; and northern end more high-end express arterial.

Expressway Characteristics

- 8.7 miles long
- 6-8 lanes wide, including HOV lanes
- 23 signalized intersections
- 3 freeway connections (I-280, US 101, SR 87)
- 5 cities served
  (Saratoga, San Jose, Cupertino, Santa Clara, Sunnyvale)
- 280,000 vehicles use Lawrence daily
- 4 LOS F intersections in 2001/2002
- 12 LOS F intersections projected in 2025



Roadway Capacity and Operational Improvements

The roadway improvement projects recommended for Lawrence Expressway are listed below:

Tier Priority	Project Description (1)	Cost (millions)
1A	Optimize signal coordination along Lawrence-Saratoga Avenue corridor including Lawrence/Prospect, Lawrence/Saratoga, Saratoga/Prospect, and Saratoga/Cox intersections	$0.1
1A	Widen to 8 lanes between Moorpark/Bollinger and south of Calvert with additional WB through lane at Moorpark	$4
1A	Coordinate and optimize signal phasing and timing plans at I-280/Lawrence interchange area including City of Santa Clara signals along Stevens Creek and County's signal at Lawrence/Calvert/I-280 SB ramp	$0.1
1A	Prepare Caltrans PSR for Tier 1C project at the Lawrence/Calvert/I-280 interchange area	$0.5
1A	Close median at Lochinvar and right-in-and-out access at DeSoto, Golden State, Granada, Buckley, and St. Lawrence/Lawrence Station on-ramp	$0.5
1A	Convert high-occupancy vehicle (HOV) to mixed-flow lanes between US 101 and Elko due to high violation rates & operational problems	$0.1
1B	Interchange at Monroe	$45
1B	Interchange at Kifer	$45
1B	Interchange at Arques with square loops along Kern and Titan	$35

Roadway Capacity and Operational Improvements (continued)

Tier Priority	Project Description (1)	Cost (millions)
1C	Provide additional left-turn lane from EB Saratoga to NB Lawrence	$2
1C	Provide additional left-turn lane from EB Prospect to NB Lawrence	$2
1C	Interim improvements at Lawrence/Calvert/I-280: provide additional SB through lane at Calvert; widen I-280 SB on-ramp to provide additional mixed-flow lane; and construct I-280 SB slip on-ramp from Calvert west of Lawrence and prohibit EB through movement at Calvert/Lawrence intersection	$8
1C	Provide additional EB through lane on Homestead (2)	$2
1C	Provide additional left-turn lane from WB Benton to SB Lawrence	$2
1C	Provide a 3rd left-turn lane from EB Oakmead/Duane to NB Lawrence	$2
2	Signalize the Wildwood Ave. intersection including opening the median, realigning Wildwood Ave., and re-timing signals between Elko and US 101	$4
2	Interchange at Tasman (3)	$45
3	Initiate a feasibility study to provide direct access between Lawrence, I-280, and Stevens Creek, and HOV direct connectors at this interchange area	$1
3	Reconstruct the interchange to provide direct access ramps between Lawrence, I-280, and Stevens Creek, and HOV direct connectors	$250-300
3	Freeway/expressway direct connector HOV ramps at US 101	$20-30

(1) When funding is obtained, each project will undergo design, environmental review, and community outreach as appropriate. Project descriptions will be changed as needed based on the results of these activities.

(2) Additional EB through at the Homestead intersection would not improve the projected 2025 LOS from F to E or better. However, it would reduce average intersection delay significantly.

(3) Local and regional LOS standards are not projected to be violated at the Lawrence/Tasman intersection within the timeframe of the plan.

Total Tier 1A	$5.3
Total Tier 1B	$125
Total Tier 1C	$18
Total Tier 2	$49
Total Tier 3	$271-331
Total	**~~$468.3~~-528.3**

Effectiveness of Roadway Improvements

- Expressway south of I-280 would improve from LOS E to LOS D and north of I-280 from LOS E and D to LOS C or better.
- All but one of the existing and projected LOS F intersections would be improved to LOS E or better. The remaining intersection at Homestead would remain a projected LOS F location but the recommended Tier 1C roadway improvement would reduce average intersection delay significantly.

Bicycle Improvements

- All necessary re-striping to bring the expressway into compliance with the Bicycle Accommodation Guidelines (BAG) will be completed as part of a system-wide re-striping project.
- Shoulder widening is needed near Pruneridge and from El Camino Real to Kifer and will be implemented as part of the County's 2003 Pavement Maintenance Project.

Pedestrian Improvements

Lawrence has a generally continuous pedestrian system using sidewalks and parallel facilities.

- Ten pedestrian crossing enhancement locations were identified for school, trail, bus stop, and commercial access: Prospect, Moorpark, Mitty, Pruneridge, Homestead, Benton, Cabrillo, Reed/Monroe, Sandia/Lakehaven, and Tasman. Total potential cost is $2.0 million.

- New sidewalks are recommended at the following locations:

New Sidewalk Locations	Project Need	Cost (millions)
Saratoga to Prospect, east side	Gap closure	$0.18
SE of Pruneridge	Connection to parallel path	$0.03
North of Pruneridge, east side	Gap closure	$0.18
SW of Benton	Gap closure	$0.03
NW of Lakehaven	Connection between parallel paths	$0.14
North of Palamos to Tasman, east side	Connection between parallel paths, bus stop connection	$0.25
North of Elko to Caribbean, east side	Neighborhood circulation	NA (1)
	Total	**$0.81**

(1) This sidewalk will require widening of the overpass at SR 237. An estimated cost is not available but could be $5 to $10 million. It should be noted that sidewalks are provided north of Elko along the west side over the overpass through to Caribbean Drive.

Sound Wall Improvements

The Plan recommends both new soundwalls and higher replacement walls at certain locations to meet noise standards. Recommendations are as follows:

Sound Wall Project Description	Cost (millions)
Between I-280 and Central • Higher replacement walls on west side near Dahlia, SW of Poinciana, east side near St. Lawrence, NW of Granada, both sides between Granada and Benton, NW of Homestead and SW of Pruneridge	$2.63
Higher replacement wall NW of Prospect	$0.96
Total	**$3.59**

The sound walls north of I-280 are relatively new having been built when the HOV lane was added. This Study used the latest federal and state criteria, which included new second floor guidelines not available when the HOV lane was added.

Total Other Capital Costs

The pedestrian and sound wall improvements recommended for Lawrence total $6.4 million. $1.6 million of these costs are included in roadway project costs for a net need of $4.8 million.

Other Improvements

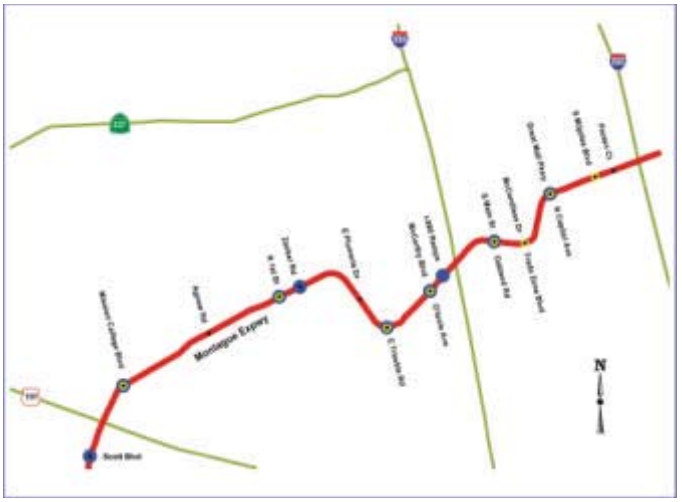
The *Implementation Plan* also includes recommendations for systemwide improvements in signal operations, landscaping, and maintenance (such as sweeping, pavement maintenance, graffiti removal, replacing aging sidewalks and sound walls). These recommendations apply to all expressways. For more information about these systemwide improvements, please see the following sections:

- Section 4 “Signals/Traffic Operations System (TOS)”
- Section 8 “Finishing Program” (includes landscaping discussion)
- Section 9 “Maintenance and Operations”

Montague Expressway

Vision

Multimodal, pedestrian friendly arterial roadway in Milpitas east of I-880; west of I-880, high-end express arterial with freeway-like segments.



Expressway Characteristics

- 6 miles long
- 6-8 lanes wide, including HOV lanes
- 13 signalized intersections
- 3 freeway connections (US 101, I-880, I-680)
- 3 cities served (Santa Clara, San Jose, Milpitas)
- 290,000 vehicles use Montague daily
- 8 LOS F intersections in 2001/2002
- 8 LOS F intersections projected in 2025

Roadway Capacity and Operational Improvements

The roadway improvement projects recommended for Montague Expressway are listed below:

Tier Priority	Project Description (1)	Cost (millions)
1A	Convert HOV lanes on 6-lane facility to mixed-flow use between I-880 and I-680 due to operational and safety problems	$0.1
1A	Baseline project consisting of 8-lane widening and I-880 par-clo interchange with at-grade improvements at Lick Mill, Plumeria/River Oaks, Main/Old Oakland, and McCandless/Trade Zone; designate new lanes between I-880 and I-680 as HOV for a 3 to 5 year trial period	$38.5
1B	At-grade improvements at Mission College and par-clo interchange at US 101	$11
1B	Trimble Flyover	$15
1B	McCarthy-O'Toole square loop interchange	$60
2	Interchange at Mission College	$55
2	Interchange at Great Mall/Capitol (2)	$42
3	Freeway/expressway direct connector HOV ramps at US 101	$30-45
3	I-680 interchange modification	$20

(1) When funding is obtained, each project will undergo design, environmental review, and community outreach as appropriate. Project Descriptions will be changed as needed based on the results of these activities.

(2) If the new HOV lanes between I-880 and I-680 remain designated as HOV after the trial period, the Great Mall/Capitol interchange may need to be moved into Tier 1B.

Total Tier 1A	$38.6
Total Tier 1B	$86
Total Tier 2	$97
Total Tier 3	$50-65
Total	**$271.6-286.6**

Effectiveness of Roadway Improvements

- Corridor east of I-880 would improve from LOS F to LOS E.
- Corridor west of I-880 would remain LOS F; however, there would be a 25% reduction in delay and 13-minute reduction in travel time.
- 7 of the existing LOS F intersections and 6 of the projected LOS F intersections would be improved to LOS E or better.

Bicycle Improvements

All necessary re-striping and shoulder widening improvements needed to bring Montague Expressway into compliance with the Bicycle Accommodation Guidelines (BAG) are included as part of the Tier 1A 8-lane roadway widening project.

Pedestrian Improvements

Sidewalks are planned for the entire length of Montague Expressway and will be added as part of the 8-lane roadway widening project. Two crossing enhancement locations were identified – at North First Street and at Great Mall Parkway/Capital Avenue for a total cost of $0.4 million.

Sound Wall Improvements

Higher sound walls are recommended on the south side of Montague Expressway between Lafayette Street and Guadalupe River. They will be constructed as part of the 8-lane roadway widening project.

Other Improvements

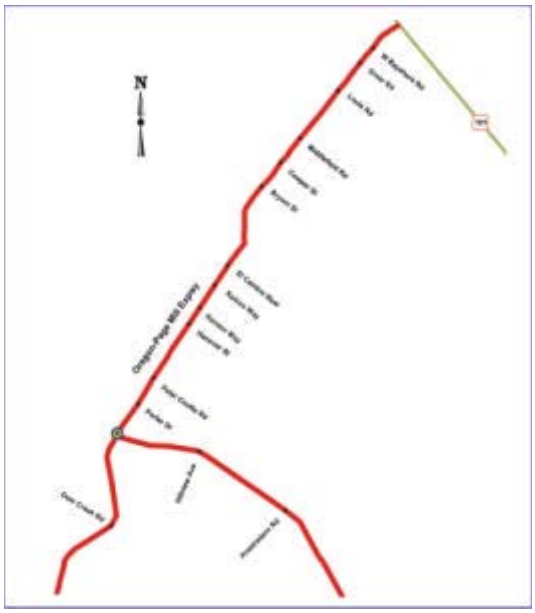
The *Implementation Plan* also includes recommendations for systemwide improvements in signal operations, landscaping, and maintenance (such as sweeping, pavement maintenance, graffiti removal, replacing aging sidewalks and sound walls). These recommendations apply to all expressways. For more information about these systemwide improvements, please see the following sections:

- Section 4 “Signals/Traffic Operations System (TOS)”
- Section 8 “Finishing Program” (includes landscaping discussion)
- Section 9 “Maintenance and Operations”

Oregon-Page Mill Expressway

Vision

Multimodal, pedestrian friendly arterial roadway with slower, smooth-flowing traffic.



Expressway Characteristics

- 4.7 miles long
- 4 lanes wide
- 14 signalized intersections
- 2 freeway connections (US 101, I-280)
- 2 cities served (Palo Alto, Los Altos Hills)
- 50,000 vehicles use Oregon-Page Mill daily
- 1 LOS F intersections in 2001/2002
- 1 LOS F intersections projected in 2025

Roadway Capacity and Operational Improvements

The roadway improvement projects recommended for Oregon-Page Mill Expressway are listed below:

Tier Priority	Project Description (1)	Cost (millions)
Expressway Study	Updated signal timing plan from El Camino Real to Indian	N.A.
1A	I-280/Page Mill interchange modification: remove SB loop on-ramp and construct SB diagonal on-ramp with signal operations; signalize NB off-ramp intersection; and provide proper channelization for pedestrians and bicycles	$5
1A	Alma Bridge Replacement Feasibility Study	$0.25
1A	Oregon corridor improvements: • Replace signal poles and optimize timing plan avoiding impacts on safety at unsignalized intersections • Construct pedestrian ramps with relocation of traffic signal poles at signalized intersections • Study operational changes at the unsignalized intersections at Waverley, Ross, and Indian that avoid increasing traffic impacts on cross and parallel streets, enhance bicycle and pedestrian safety, and maintain vehicle safety • Conduct feasibility study of adding turn lane at Middlefield Road and converting to 8-phase signal operation to enhance efficiency and safety without taking right-of-way	$5
2	Provide a separate right-turn lane from WB Oregon to El Camino Real and lengthen left-turn lane from WB Oregon to El Camino Real (2)	N.A.

Roadway Capacity and Operational Improvements (continued)

Tier Priority	Project Description (1)	Cost (millions)
3	Add a second SB right-turn lane from Junipero Serra to Page Mill; extend the SB right-turn lane half way to Stanford Avenue intersection. Maintain through bike lane, no free right-turn lane, avoid inadvertently inducing traffic shift onto Stanford (3)	$2-4
3	Alma Bridge Reconstruction	$100

Total Tier 1A	$10.25
Total Tier 3	$102-104
Total	**$112.25-114.25**

(1) When funding is obtained, each project will undergo design, environmental review, and community outreach as appropriate. Project descriptions will be changed as needed based on the results of these activities.

(2) Palo Alto may conduct further studies and minor operational improvements for the Oregon-Page Mill/El Camino Real intersection, as specified in the City's Comprehensive Plan.

(3) Although this is an existing LOS F intersection, Palo Alto would like to wait on improvements until the benefits of the Sand Hill Road improvements and programs to encourage alternate modes of transportation on the LOS at this location can be evaluated. Should a future evaluation indicate improvements are still needed, the project could be moved into Tier 1 with Palo Alto's concurrence.

Effectiveness of Roadway Improvements

Oregon-Page Mill would continue to operate at LOS D and the LOS F intersection would be improved to LOS E or better.

Bicycle Improvements

All necessary re-striping to bring the expressway into compliance with the Bicycle Accommodation Guidelines (BAG) will be completed as part of a systemwide re-striping project. Shoulder widening is needed through the Alma bridge area; however, this widening must be completed as part of the bridge reconstruction project.

Pedestrian Improvements

Oregon has continuous frontage roads along the north side for pedestrian use and Page Mill has sidewalks from El Camino Real to Foothill Expressway. A parallel path is recommended for pedestrian travel west of Foothill. Pedestrian crossing enhancements are recommended at six locations along Oregon (El Camino Real, Bryant, Cowper, Middlefield, Louis, and Greer). The primary need is to add pedestrian ramps, which will require moving signal poles. These ramps are included in the Tier 1A Oregon Corridor Improvement project.

Sound Wall Improvements

Preliminary noise level analysis indicates that sound mitigation measures along both sides of Oregon between US 101 and Alma may be warranted. Sound walls would be one potential measure and would cost $5.7 million. It is recommended that sound mitigation measures be considered when the existing landscaping reaches the end of its life cycle and needs replacement allowing an integrated installation plan to be pursued.

Other Improvements

The *Implementation Plan* also includes recommendations for systemwide improvements in signal operations, landscaping, and maintenance (such as sweeping, pavement maintenance, graffiti removal, replacing aging sidewalks and sound walls). These recommendations apply to all expressways. For more information about these systemwide improvements, please see the following sections:

- Section 4 “Signals/Traffic Operations System (TOS)”
- Section 8 “Finishing Program” (includes landscaping discussion)
- Section 9 “Maintenance and Operations”

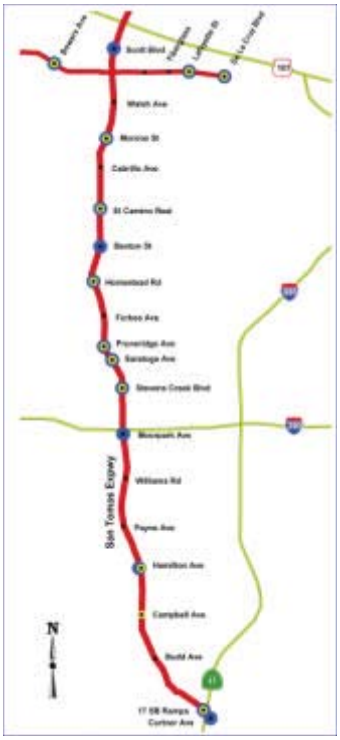
San Tomas Expressway

Vision

High-end express arterial with freeway-like segments.

Expressway Characteristics

- 8.5 miles long
- 6-8 lanes wide, including HOV lanes
- 19 signalized intersections
- 2 freeway connections (SR 17, US 101)
- 3 cities served (Campbell, San Jose, Santa Clara)
- 220,000 vehicles use San Tomas daily
- 9 LOS F intersections in 2001/2002
- 12 LOS F intersections projected in 2025



Roadway Capacity and Operational Improvements

The roadway improvement projects recommended for San Tomas Expressway are listed below:

Tier Priority	Project Description (1)	Cost (millions)
Expressway Study	Updated signal timing plans from Budd to Hamilton and Moorpark to Scott	N.A.
Measure B	Provide a 2nd left-turn lane from EB and WB Campbell to San Tomas and a separate right-turn lane from WB Campbell to NB San Tomas	N.A.
1A	At grade improvements at SR 17/San Tomas: • Restripe the EB through lane on White Oaks to provide an optional left as 3rd left-turn lane • Provide second right-turn lane on SB off-ramp • Study potential operational & safety improvements in the interchange area	$2
1A	Provide a 2nd left-turn lane from EB and WB Hamilton to San Tomas and a 2nd left-turn lane from NB San Tomas to WB Hamilton	$2
1A	Widen to 8 lanes between Williams and El Camino Real with additional left-turn lane from EB and WB El Camino Real to San Tomas	$28
1A	Provide additional right-turn lane from WB Monroe to NB San Tomas	$1
1C	Provide additional right-turn lane from WB Scott to NB San Tomas	$1
2	Interchange at Stevens Creek	$50-70
2	Interchange at El Camino Real	$60
2	Interchange at Monroe	$55
2	Interchange at Scott	$65

Roadway Capacity and Operational Improvements (continued)

Tier Priority	Project Description (1)	Cost (millions)
3	Initiate a study to reconfigure SR 17/San Tomas Interchange	$0.25
3	Reconstruct SR 17/San Tomas Interchange	$100-200
3	Freeway/expressway direct connector HOV ramps at US 101 and I-280	$30-45

(1) When funding is obtained, each project will undergo design, environmental review, and community outreach as appropriate. Project descriptions will be changed as needed based on the results of these activities.

Total Tier 1A	$33
Total Tier 1C	$1
Total Tier 2	$230-250
Total Tier 3	$130.25-245.25
Total	**$394.25-529.25**

Effectiveness of Roadway Improvements

- Expressway south of I-280 would improve from LOS E to LOS D and north of I-280 from LOS E to LOS C or better.
- All of the existing and projected LOS F intersections would be improved to LOS E or better.

Bicycle Improvements

- All necessary re-striping to bring San Tomas Expressway into compliance with the Bicycle Accommodation Guidelines (BAG) will be completed as part of a systemwide re-striping project.
- Shoulder widening recommendations include:

Location	Project Description	Cost (millions)
Hamilton	Widen SB approach for approximately 275 feet to provide adequate shoulder per BAG	$0.25
Cabrillo	Widen NB approach for approximately 375 feet to provide adequate shoulder per BAG	$0.20
	Total	**$0.45**

Pedestrian Improvements

Most of San Tomas has wide shoulders for emergency and occasional pedestrian use with sidewalks provided at bus stops and at the Los Gatos Creek Trail connection.

- Four pedestrian crossing enhancement locations were identified for school, bus stop, and commercial access: Williams, Homestead, El Camino Real, and Cabrillo. Total potential cost is $0.8 million.
- A new pedestrian overcrossing (POC) is recommended near Latimer to connect various community facilities at a cost of $4.0 million.

Pedestrian Improvements (continued)

- The Plan supports efforts to cover the open creek culvert along the west side of the expressway from Hamilton to Moorpark to create a landscaped, parkstrip walkway.
- New sidewalks are recommended at the following locations:

New Sidewalk Location	Project Need	Cost (millions)
SW of Stevens Creek	Gap closure	$0.38
NE quadrant at Pruneridge	Bus stop connection	$0.03
NW quadrant at Walsh	Bus stop connection	$0.08
	Total	**$0.49**

Sound Wall Improvements

The Plan recommends both new sound walls and higher replacement walls at certain locations to meet noise standards. Recommendations are as follows:

Sound Wall Project Description	Cost (millions
Between SR 17 and Williams • New walls along west side and gap closure on east side between Williams and Payne, SE of Hamilton, west side near Bucknall, SW of Budd, and NW of Winchester ramp • Higher replacement walls along east side from south of Hamilton to north of Campbell and from Budd to Winchester	$5.56
Between Williams and El Camino Real • Higher replacement walls east side from El Camino Real to Forbes, SW of Benton, SW of Saratoga, west side adjacent to Greenlee residences north of I-280 and Larkmead residences south of I-280, and east side gap closure north of Williams	$5.39
Between El Camino Real and Central • Higher replacement walls along NW and NE of Cabrillo, and east side from Cabrillo to El Camino Real	$2.14
Total	**$13.09**

Total Other Capital Costs

The bicycle, pedestrian, and sound wall improvements recommended for San Tomas total $18.83 million. $6.24 million of these costs are included in roadway project costs for a net need of $12.59 million.

Other Improvements

The *Implementation Plan* also includes recommendations for systemwide improvements in signal operations, landscaping, and maintenance (such as sweeping, pavement maintenance, graffiti removal, replacing aging sidewalks and sound walls). These recommendations apply to all expressways. For more information about these systemwide improvements, please see the following sections:

- Section 4 “Signals/Traffic Operations System (TOS)”
- Section 8 “Finishing Program” (includes landscaping discussion)
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