



Memo

Date: Wednesday, August 22, 2018

Project: Alameda Rail Corridor and Crossings Assessment

To: Carolyn Clevenger, Alameda CTC

From: Cathy LaFata and Wayne Short, HDR

Subject: Fremont Rail Corridors and Crossings

This memorandum provides an assessment of the grade crossings along the Union Pacific Railroad's (UPRR) Niles Subdivision between Mile Posts (MP) 28.54 and MP 30.74, and between MP 32.20 and MP 32.54, in the City of Fremont. The assessment includes a description of the existing conditions at each crossing, proposed near-term safety improvements, potential long-term grade separations, and a preliminary assessment of whether the safety improvements would be sufficient for a quiet zone. The quiet zone feasibility assessment was done given the general interest throughout the county in quiet zones. Individual jurisdictions would need to determine if a quiet zone is appropriate for their local conditions.

This memo presents technical information for consideration but is in no way a funding commitment or recommendation of specific improvements. Additional discussion with local jurisdictions and other partners (e.g., UPRR, CPUC) would need to take place before any improvements could be developed further. More refined cost assessment would also occur should any improvements move forward. The costs presented in this memo are conceptual and subject to refinement as design advances.

1.0 Overview of Analysis

The Alameda County Transportation Commission (CTC) Rail Strategy Study (RSS) is an outgrowth of recommendations included in the Countywide Goods Movement Plan and the Countywide Transit Plan, both of which identified significant growth potential for rail in the county. The RSS includes an analysis of at-grade rail crossings on the mainline rail system within Alameda County. A key aspect of the strategy is to identify a list of high-priority crossings or collection of crossings, referred to as corridors, for funding advocacy and project development. The corridors include those areas between individual crossings. Field visits were conducted to assess the current condition of all the crossings located within each corridor, as well as those not within a crossing corridor, as identified above. During each site visit, HDR observed and documented the condition of crossing surfaces and panels, identified the existing safety measures in place, and assessed if any additional safety measures may be appropriate at each crossing.

In November 2017 and February 2018, staff met with Alameda County Technical Advisory Committee (ACTAC) to get input on the methodology used to screen crossings, review initial results, and share the



toolkit resource. This analysis was used to prioritize a subset of the 133 at-grade rail crossings¹ and 23 rail corridors in the county in order to focus resources and advocate to implement improvements. An update on the grade crossing component of the RSS, including the prioritized list of Tier 1 crossings and corridors, was presented to the Alameda County Planning, Policy and Legislation Committee (PPLC) on March 5, 2018. The Alameda CTC approved the item at its March Commission meeting. The March PPLC Grade Crossing Analysis and Safety Improvements Update Memorandum is available online at: https://www.alamedactc.org/files/managed/Document/22626/5.3_Grade_Crossing_Update.pdf

The March PPLC memorandum identifies the final prioritization methodology and draft results. Crossings and corridors have been prioritized based on safety, vehicle delay, emissions, and noise impacts, as well as whether or not the crossing is in a high-growth Priority Development Area or a Community of Concern². Application of this analysis has identified a set of 23 Tier 1 crossings and 10 Tier 1 corridors.

Following the identification of the Tier 1 crossings and corridors, the Alameda CTC retained HDR Engineering, Inc. (HDR) to conduct a site assessment of at-grade crossings within the Tier 1 corridors (including those grade crossings not identified as Tier 1 crossings) as well as identified Tier 1 grade crossings not within Tier 1 corridors. Based on proximity of closely spaced Tier 1 crossings within a corridor, two additional corridors were assessed compared to the original list of Tier 1 corridors. Figure 1 presents the crossings and corridors that were included in this assessment. Early in the assessment phase, the Alameda CTC consulted with the City of Fremont and discussed existing issues and concerns, identified on-going efforts, and invited them to the site assessments. These meetings helped to inform the assessments and potential recommendations.

The grade crossing assessment is a critical element of the RSS as it seeks to develop a strategic framework for advancing grade crossing improvements throughout the county in order to improve safety and reduce community impacts. The analysis is used to identify potential improvements to help Alameda CTC and partner agencies prioritize crossings and corridors, and to inform a strategy to advance a program of improvements to the next phase of project development. Note that this site assessment does not replace the formal consultation process required by the California Public Utilities Commission (CPUC) under General Order 88-b; Modifications to Existing Crossings.

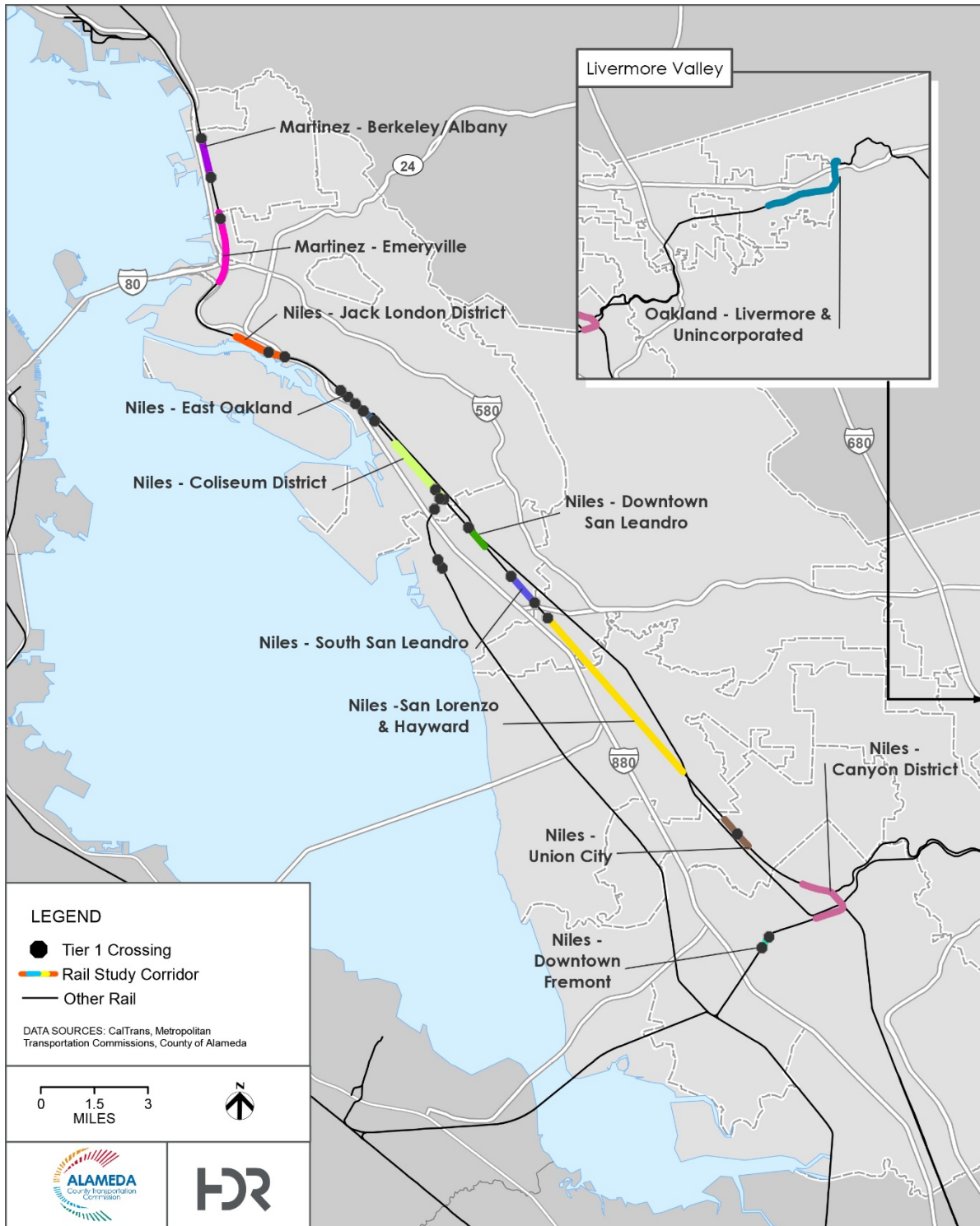
This technical memorandum includes the Tier 1 corridor and grade crossings included in the City of Fremont, as shown in Figure 2. These include the following:

- Niles – Canyon District Corridor
 - Including the crossings at: Nursery Avenue and Shinn Street
- Niles – Downtown Fremont Corridor
 - Including the crossings at: Fremont Boulevard (Tier 1), Maple Street, and Dusterberry Way (Tier 1)

¹ Prioritization was done among the crossings along the mainline and does not include spurs.

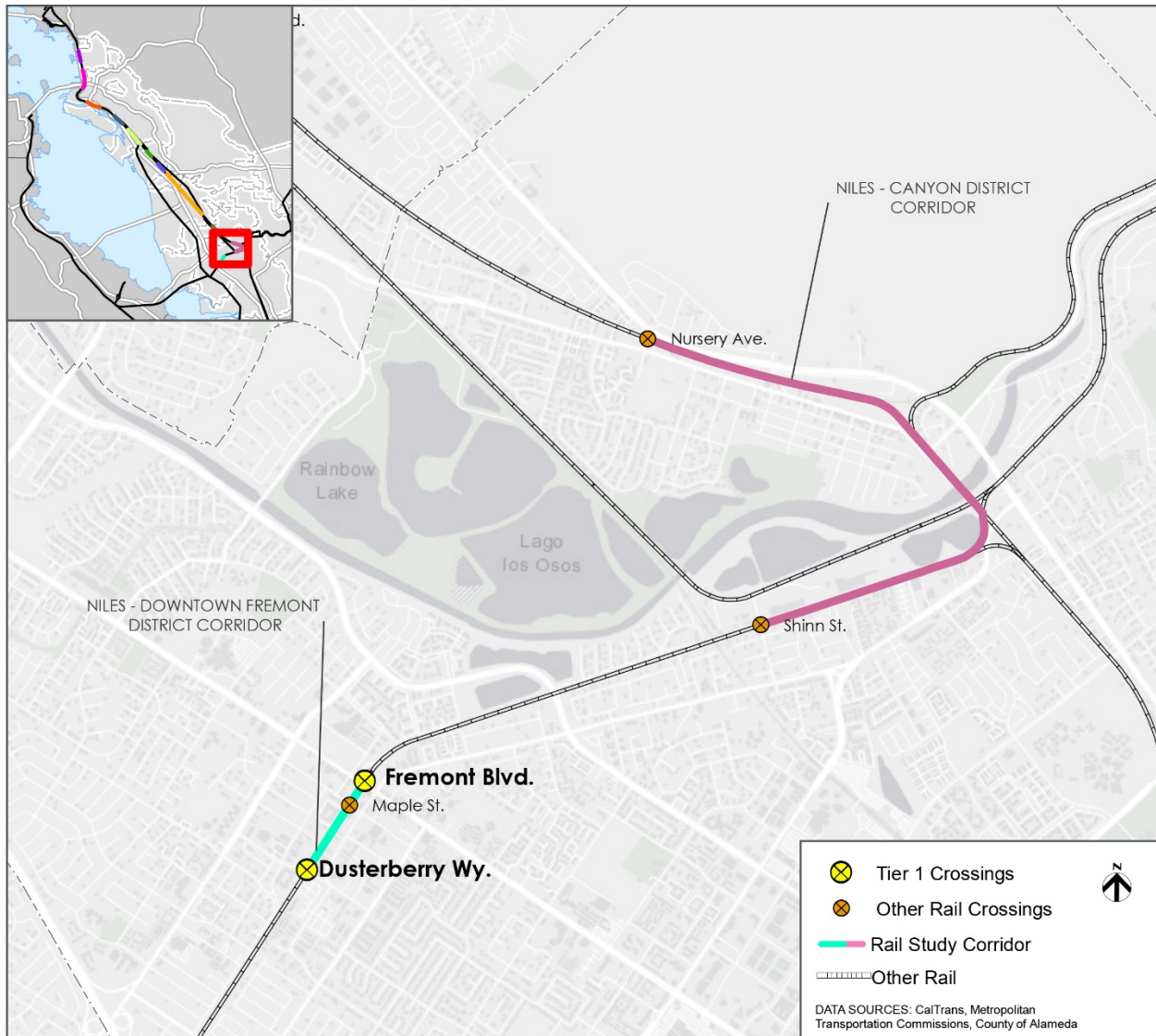
² Community of Concern refers to the Metropolitan Transportation Commission's (MTC) designation of communities that have high concentration of both minority and low-income households or that have a concentration of other factors including people with disabilities, seniors, and cost-burdened renters.

Figure 1. Rail Study Corridors and Tier 1 Crossings



Note: Due to close proximity of Tier 1 crossings within a corridor, two additional corridors are included in this assessment. The two additional corridors are the Niles – Downtown San Leandro and the Niles – Downtown Fremont corridors.

Figure 2. City of Fremont Corridors and Tier 1 Crossing



2.0 Methodology

Field visits were conducted to assess the current condition of all the crossings located within each corridor, as well as those not within a crossing corridor, as identified above. During each site visit, HDR observed and documented the condition of crossing surfaces and panels, identified the existing safety measures in place, and assessed if any additional safety measures may be appropriate at each crossing.

For Tier 1 crossings, the assessment also included a grade separation analysis to determine the feasibility of grade separating the crossing and type of grade separation, i.e. overpass or underpass. For the corridors, a trespass assessment was also performed to identify any locational factors contributing to



trespassing and potential improvements to deter trespassing. **Appendix A**, Grade Crossing Site Visit Reports, includes detailed information on the assessment.

For the recommended near-term improvements and initial scan of grade separations, concept-level project capital expenditure (Capex) costs are estimated in 2017 dollars and have not been escalated. Capex costs do not include right-of-way costs or other project development costs except for design, environmental, and construction management. Given the level of design (5 to 10%), the accuracy of the estimates could vary significantly from -30% on the low end to +50% on the high end and could vary by project, as more detailed design information becomes available and quantities are more accurately defined. Labor, material, and equipment rates may also vary significantly based on regional and national economic conditions at the time of construction. Therefore, no guarantees are made or implied that the estimates of project costs will not vary significantly in following phases of project development. The Capex costs are intended to provide order-of-magnitude costs for future funding programming.

3.0 Niles – Canyon District Crossing Corridor

3.1 Description

The Niles – Canyon District Corridor is located on the UPRR Niles subdivision between MP 28.54 and MP 30.74 in the City of Fremont. The corridor includes two crossings, Nursery Avenue and Shinn Street. Neither are Tier 1 crossings (see Table 1)³. The Niles – Canyon District Corridor and its grade crossings are shown in Figure 2. Approximately 14 passenger trains use this corridor each weekday⁴.

Table 1. Niles – Canyon District Corridor Crossing List

Street Name	Location	Mile Post	Average Daily Traffic (ADT) ¹	Tier 1 Crossing
Nursery Avenue	City of Fremont	28.54	10,900	NO
Shinn Street	City of Fremont	30.74	600	NO

Notes:

1. Source: Alameda CTC Rail Strategy Study, Task 8 Report – Grade Crossing Improvements, 2018.

³ The Niles – Canyon District is a Tier 1 corridor primarily for the number of trespass fatalities that have occurred in this corridor over the last 5 years.

⁴ Source: Alameda CTC Rail Strategy Study, Task 3 Report – Future Train Volumes, 2017

3.2 Crossing Assessment



3.2.1 Nursery Avenue

The Nursery Avenue crossing is a two-lane roadway located within the City of Fremont just north of the Niles District. The roadway crosses the track at a 90-degree angle and the posted speed is 25 mph. The roadway is approximately the same grade as the railroad. There is an asphaltic concrete (AC) sidewalk on the south side and no sidewalk on the north side of the crossing. Warning devices consist of two-quadrant flashing lights with gates, one set for each direction. The crossing panels, signage, and pavement markings are in good condition; however, the roadway surface is in poor

condition. There appears to be adequate street lighting at the adjacent intersections, but there are no street lights at the crossing.

Potential deficiencies noted in the site visit include:

- AC pavement deteriorated
- No sidewalk on north side
- AC sidewalk is not ADA-compliant
- No raised median in both approaches allowing vehicles to drive around gates
- No street lights at crossing
- Right-of-way open to public on both sides of crossing all quadrants

Recommended near-term safety enhancements include:

- Repair AC pavement
- Add Portland Concrete Cement (PCC) ADA-compliant sidewalks to both sides of crossing
- Install street lights at the crossing
- Add pedestrian warning devices in opposite directions
- Add raised median on both approaches and relocate driveway in northwest quadrant
- Install partial 200-foot-long security fence (100 feet on each side of the street) and maintenance access gates to each quadrant to deter trespassing
- Upgrade signal interconnect for Quiet Zone



The City of Fremont is in the process of upgrading the crossing and will apply for a Quiet Zone after the improvements are complete.



3.2.2 Shinn Street

The Shinn Street crossing is located within the City of Fremont on the eastern portion of the Centerville Line. It is a two-lane street that crosses the Niles Subdivision at 86 degrees. This crossing has two mainline tracks the roadway is approximately the same grade as the railroad. The speed limit is 25 mph. There are no sidewalks on either side of the crossing. Warning devices include one set of flashing lights and gates for each direction. There is a street light at the crossing.

Potential deficiencies noted in the site visit include:

- No sidewalks on either side of crossing
- No raised medians on either approach preventing vehicles from driving around gates
- No warning devices on the opposite quads for pedestrians in opposite direction
- Right-of-way at all four quadrants open to the public for trespassing
- Chain-link gates are located in the northwest and northeast quadrants; however, they are not continuous and pedestrians can walk around them

Recommended near-term safety enhancements include:

- Install ADA-compliant concrete sidewalks on both sides
- Add one set of flashing lights (Standard CPUC No.8s) to each of the opposite quadrants for pedestrians in opposite direction
- Install 100-foot-long raised median on both sides of the crossing
- Install partial 200-foot-long security fence (100 feet on each side of the street) and maintenance access gates to each quadrant to deter trespassing
- Install “No Trespassing” signs



The existing two-quadrant gates with the addition of raised medians are sufficient supplemental safety measures should the City decide to apply for a Quiet Zone that would include this crossing. Four-quadrant gates are not required since the combination of gates and median is an approved supplemental safety measure that prevents vehicles from driving around the gate.

3.3 Recommendations

3.3.1 Crossing Corridor Improvements

Table 3 provides a summary of the near-term improvements recommended for both crossings located within the corridor. Each of the recommended improvements would contribute to improving the overall safety of each of the crossings. By constructing all the improvements at each crossing at the same time,



the maximum benefits are achieved while reducing traffic disruptions and reducing the overall cost of the improvements if constructed separately.

Table 3. Recommended Near-Term Crossing Treatments and Related Improvements for Niles - Canyon District Corridor

Street	Convert One-Way Couplet	Driveway Closure	Side Street Closure	Pavement Markings	Dynamic Envelope Marking	Signage Upgrades	Raised Medians-100 ft. (8")	Raised Curb	Street Lighting	4-Quadrant Gates	Signal Interconnect	Pre-signal/Queue Cutter	Pedestrian Flashing Lights/Gates	Sidewalk Realignment/Widening/Repair	Pavement Repairs	Bike Path Realignment	Pedestrian "Z" Crossing	Anti-Trespass Fence	Anti-trespass Landscaping
Nursery						X	X		X		X		X	X				X	
Shinn						X	X		X				X	X				X	

The total Capex costs to implement the proposed near-term improvements is \$905,000 as summarized in Table 4. Note that most of the recommended safety treatments for Nursery Avenue are already included in a project currently underway at the City of Fremont.

Table 4. Near-Term Safety and Anti-trespass Enhancement Costs for Niles – Canyon District Corridor

Cost Element	Nursery Avenue	Shinn Street
Signing and Striping	\$20,000	\$20,000
Pavement Repairs	\$35,000	
Raised Medians	\$50,000	\$50,000
Street Lighting	\$100,000	
Signal Interconnect	\$75,000	
Sidewalk	\$16,500	\$16,500
Pedestrian Flashing Lights/Gates	\$240,000	\$240,000
Anti-Trespassing Fence	\$24,000	\$18,000
Estimated Total	\$560,500	\$344,500

4.0 Niles – Downtown Fremont Crossing Corridor

4.1 Description

The Niles – Downtown Fremont Corridor is located on the UPRR Niles subdivision between MP 32.20 and MP 32.54 in the City of Fremont in the Centerville District. The corridor includes three crossings,

Fremont Blvd (Tier 1), Maple Street, and Dusterberry Way (Tier 1), as shown in Table 5. Approximately 11 freight and 22 passenger trains use the corridor each weekday⁵.

Table 5. Niles – Downtown Fremont Crossing List

Street Name	Location	Mile Post	Average Daily Traffic (ADT) ¹	Tier 1 Crossing
Fremont Boulevard	City of Fremont	32.20	25,700	YES
Maple Street	City of Fremont	32.28	3,200	NO
Dusterberry Way	City of Fremont	32.54	7,400	YES

Notes:

Source: Alameda CTC Rail Strategy Study, Task 8 Report – Grade Crossing Improvements, 2018.

4.2 Crossing Assessment



4.2.1 Fremont Boulevard

The Tier 1 Fremont Boulevard is located in the City of Fremont in the Centerville District. It is a four-lane major arterial (SR 84) that crosses the railroad at 90 degrees. The roadway crosses the tracks in a slight vertical sag curve. The speed limit for the roadway is 30 mph. Warning devices include one set of flashing lights and gates (Standard CPUC No.9s) for each direction.

Potential deficiencies noted in the site visit include:

- Long 3-minute gate down times when passenger trains are stopped at the Fremont station causes lengthy 15- to 20-vehicle queues at the crossing
- Sidewalks in crossing area are AC pavement
- No warning devices on the opposite quadrants for pedestrians in opposite direction
- No center median to prevent vehicles from driving around the gate arms

Recommended near-term safety enhancements include:

- Add 60- to 100-foot-long raised medians on each side of the crossing and close Peralta Court just east of the crossing
- Upgrade sidewalks in crossing area to ADA-compliant PCC
- Install “No Trespassing” signs
- Perform crossing signal study to determine best technical solution to minimize gate down time

The cause of the long gate down times is that the passenger platform extends into the limits of the signal island circuit. An island circuit is similar to a traffic loop. Any time a train is within the circuit it keeps the crossing signals activated and the gates down. The traditional solution would be to shorten the island circuits to the minimum length allowable by code and place a stop short sign so the train stops before the

⁵ Source: Alameda CTC Rail Strategy Study, Task 3 Report – Future Train Volumes, 2017

circuit. This is usually a low-cost solution, typically costing less than \$75,000. In this case it may also require lengthening the passenger platform 50 to 100 feet. With the mandate of positive train control (PTC), which should be implemented on this line in the next few years, a second option is available. A train signal, commonly referred to as a “control point” could be installed at the station. When the signal is red, the gates would remain open. PTC would enforce the stop command if the engineer fails to comply with the signal indication of red. When the sign turns green the gates will activate and drop 20 seconds later allowing the train to leave. The cost of this solution would be in the \$1 million to \$1.5 million range. Given the complexity of this issue, a study is recommended to determine the best course of action. The study should also take into account any future improvements to the station. Study participants would include the City of Fremont, CPUC, Capitol Corridor Joint Powers Authority, Altamont Corridor Express, Amtrak, and the UPRR.



The existing two-quadrant gates with the addition of raised medians and the closure of Peralta Court are sufficient supplemental safety measures should the City decide to apply for a Quiet Zone that includes this crossing. Four-quadrant gates are not required since the combination of two-quadrant flashing lights with gates, road closure, and raised median is an approved supplemental safety measure that prevents vehicles from driving around the gates.

Grade Separation “Initial Scan”: As a Tier 1 crossing, Fremont Avenue is a potential candidate for a grade separation. However, the crossing is not recommended for grade separation at this time due to the close proximity of Bonde Way and Peralta Boulevard, approximately 250 feet away from the crossing, and the location of the Fremont Amtrak Station immediately east of the crossing.

4.2.2 Maple Street



The Maple Street crossing along the Niles Subdivision, located in the City of Fremont in the Centerville District, is a two-lane roadway that crosses the railroad at 90 degrees. The roadway is slightly higher than the grade of the railroad. Sidewalks extend across the tracks and are ADA-compliant. The posted speed for the roadway is 25 mph. Warning devices include one set of flashing lights and gates (Standard CPUC No.9s) for each direction. Baine Avenue is immediately adjacent to the railroad on the west

Potential deficiencies noted in the site visit include:

- Intersection is 25 feet from the nearest track on west

Recommended near-term safety enhancements include:

- None have been identified

Four-quadrant gates would be required should the City decide to apply for a quiet zone that includes this crossing. The crossing could also be considered for potential closure given the low volume of vehicle traffic (3,200 ADT) and close proximity of Baine Avenue to the tracks.



4.2.3 Dusterberry Way

The Dusterberry Way crossing is a Tier 1 crossing located about 1,800 feet west of the Fremont Boulevard crossing on the Centerville Line. The street is a four-lane arterial that crosses the rail line at 87 degrees. The crossing has two mainline tracks and the roadway is close to the same grade as the railroad. Warning devices include two CPUC standard No.9s (flashing lights and gates), one for each roadway direction.

Potential deficiencies noted in the site visit include:

- Concrete sidewalks on the north side of the crossing have substandard width and clearance from utility poles
- No center median to prevent vehicles from driving around the gate arms
- No warning devices on the opposite quadrants for pedestrians in opposite direction
- Right-of-way at all four quadrants open to the public for trespassing

Recommended near-term safety enhancements include:

- Widen concrete sidewalks on the north side,
- Install separate pedestrian gates on each side of street
- Add 60- to 100-foot-long raised medians on each side of the crossing
- Install partial 200-foot-long security fence (100 feet on each side of the street) and maintenance access gates to each quadrant to deter trespassing
- Install “No Trespassing” signs

The existing two-quadrant gates with the addition of raised medians are sufficient supplemental safety measures should the City decide to apply for a Quiet Zone that includes this crossing. Four-quadrant gates are not required since the combination of two-quadrant flashing lights with gates, road closure, and raised median is an approved supplemental safety measure that prevents vehicles from driving around the gates.

Grade Separation “Initial Scan”: As a Tier 1 crossing, Dusterberry Way is a potential candidate for a grade separation. Based on site observations, a 70-foot-long roadway underpass (70-foot-long long railroad structure over the roadway) would likely be required at this location. However, due to the crossing’s proximity to Peralta Boulevard and Hansen Avenue, those intersections would have to be lowered approximately 5 feet to create enough depth for Dusterberry Way to clear the railroad. Access to business in the northeast quadrant would be eliminated. Based on experience with similar sites, the preferred railroad superstructure would likely consist of a one-span 70-foot-long rolled steel beam deck bridge with a steel ballast pan to bring the superstructure depth down to 5 feet from top of rail. For foundations, the abutments would need to be supported by large diameter CIDH or CISS piles, concrete columns, and precast concrete caps. The roadway profile would need to be depressed approximately 25 feet below the surrounding ground. A pump station would be required to pump stormwater out of the roadway portion of the underpass. The roadway profile conform points are approximately 750 feet on either side of the crossing assuming that the Peralta and Hansen intersections are lowered.



Access to the residential properties immediately adjacent to the tracks appear to not be affected as vehicle access is currently made on adjacent streets. Several commercial driveways (on the east side of Dusterberry Way and on Peralta will be impacted (reconfigured) but most likely still useable. Major utilities and roadway infrastructure would need to be relocated, including street lighting on both sides of the street and in the lowered intersection, traffic signals, PG&E and communications vaults in the northeast quadrant, the sanitary sewer system, the drainage system, and the fiber optic line south of the track.

The Dusterberry Way crossing would likely be categorized as a lower priority grade separation due to its relatively low daily traffic counts relative to other Tier 1 crossings. **Appendix B** includes an exhibit of the conceptual grade separation, as well as profile and typical section at Dusterberry Way.

4.3 Trespass Assessment

There are no schools within 1,500 feet of the crossings; however, there is considerable pedestrian activity near and around the Fremont Boulevard crossing as the adjacent Amtrak/ACE/Capitol Corridor railroad station is busy with patrons that take short-cuts through the railroad right-of-way. A homeless encampment was observed east of Fremont Boulevard on the north side of the railroad right-of-way. A well-worn path from the camp to the station parking lot on the north side of the tracks appeared to be the primary access to the camp. It doesn’t appear the occupants crossed the tracks in this area due to existing right-of-way fencing on the south side of the tracks. Trespassing was observed across the street from the Amtrak station and toward the west along the tracks.

Another factor that may contribute to trespassing in this corridor is the easy access to the railroad right-of-way at both crossings and along the railroad between Fremont Boulevard and Dusterberry Way. To deter trespassing, the use of right-of-way security fencing with access gates for railroad maintenance should be considered, as well as appropriate “No Trespassing” signs.



4.4 Recommendations

4.4.1 Crossing Corridor Improvements

Table 6 provides a summary of the near-term improvements recommended for the three crossings located within the corridor. Each of the recommended improvements will contribute to improving the overall safety of the project and are recommended to be completed as one project.

Table 6. Recommended Near-Term Crossing Treatments and Related Improvements for Niles- Downtown Fremont Corridor

Street	Closure Candidate	Convert One-Way Couplet	Driveway/Side Street Closure	Pavement Markings	Dynamic Envelope Marking	Signage Upgrades	Raised Medians-100 ft (8")	Raised Curb	Street Lighting	4-Quadrant Gates	Signal Interconnect	Pre-signal/Queue Cutter	Pedestrian Flashing Lights/Gates	Sidewalk Realignment/Widening/Repair	Bike Path Realignment	Pedestrian "Z" Crossing	Anti-Trespass Fence	Anti-Trespass Landscaping
Fremont						X	X							X				
Maple	X																	
Dusterberry						X	X						X	X			X	

The total Capex costs to implement the proposed near-term improvements is \$433,100 as summarized in Table 7.

Table 7. Near-Term Safety and Anti-trespass Enhancement Costs for Niles- Downtown Fremont

Cost Element	Fremont Boulevard	Maple Street	Dusterberry Way
Signing and Striping	\$20,000		\$20,000
Raised Median	\$50,000		\$50,000
Sidewalk Modification	\$16,500		\$21,000
Pedestrian Flashing Lights/Gates			\$240,000
Anti-Trespassing Fence			\$15,600
Estimated Total	\$86,500	\$0	\$346,600

4.4.2 Grade Separations

Based on the conceptual grade separation design described in Section 4.2 and shown in **Appendix B**, the Capex cost for the Dusterberry Way grade separation is \$86.4 million. This cost is summarized in Table 8. Additional analysis is required to prioritize the grade separations based on the benefits derived versus the cost of the project.



Table 8. Capex Costs for Grade Separation at Dusterberry Way

Cost Element	Dusterberry Way
Site/Civil	\$ 24.8 million
Track	\$ 0.2 million
Structures	\$ 25.5 million
Roadway	\$ 7.8 million
Contingencies	\$ 17.5 million
Project Development	\$ 10.6 million
Right-of-way	TBD
Estimated Total (excluding R/W)	\$ 86.4 million

APPENDIX A

Roadway Grade Crossing Site Visit Forms

Roadway Grade Crossing Site Visit Form

Date: 4/4/2018

Railroad Corridor: Niles – Canyon District

City/County: Fremont/Alameda

Road/Street: Nursery Ave

DOT: 749787X

Subdivision/Mile Post: Niles MP 28.54

ADT/No. Trains 10,932/14

Attendees:

M. Strider - HDR	C. O’Gara - HDR

Purpose of Site Visit: Inspect At-Grade Xing

Safety Briefing By: M. Strider

Site Map



Grade Separation Review

Crossing Characteristics	Existing Condition
Track Characteristics:	Speed: 79-50 Rail Wt. <u>136</u> CWR; Joint Locations: Comp joints on either sides of crossing Crossing Surface: Concrete Panels Crossing Length: 50' Single Track General Condition: Poor
Crossing Warning Devices	Type: Flashing light warning device with crossing gates - BFG Location: Edge of pavement NW and SE. Signal house in E quadrant Condition: Up to current standards.
Roadway Characteristics	Posted Speed: 25MPH Surface: AC Width: 24' Crossing Angle: 90d Center Medians: No Curbs/Shoulders: Shoulders and sidewalks. Sidewalk not wide enough SE side, no sidewalk on NW side
Adjacent Intersections	Commercial Driveway – 50' NW Mission Blvd Inters – 110' NW Miles Blvd Inters – 160' S
Existing Utilities	In Roadway: OH crossing (elec and comm) NW side, Riser pole in west quadrant Along RR: PGE gas line (x2) N side of crossing, FOC N and S sides. Comm substation (NW quadrant),
Geometric Issues/Constraints	Mission Blvd and Niles Blvd very close
Pedestrian Activity	Yes. Crossing both sides even though no sidewalk along NW side
Bicycle Activity	Yes but not designated
Available Right-of-Way	Yes. West and East quadrant appear to be open fields

Roadway Profile	Is roadway profile lower/level/ higher than track? Lower on N side, level on S side
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Rail Profile	Is crossing in level, sag, or crest segment? level Can the track be raised/lowered?
Traffic Impact	Can roadway be closed during construction? Can traffic be maintained during construction?

Comments

Comments	<ul style="list-style-type: none"> • Semi trailer trucks drive along N side of ROW, entering from NW quadrant • Very busy crossing • Ped crossing not present on NW side. Ped crossing on SE side not wide enough. • Roadway in poor condition: raveling and potholes present. • Grade crossing striping in poor shape. • ROW not fenced • No “No Trespassing” signs present.
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Site Photos

RR Looking West



RR Looking East



Roadway Looking North East



Roadway Looking South West



Roadway Grade Crossing Site Visit Form

Date: 4/4/2018

Railroad Corridor: Niles – Canyon District
City/County: Fremont/Alameda
Road/Street: Shinn Rd
DOT: 750044U
Subdivision/Mile Post: Niles MP 30.74
ADT/No. Trains 580/33

Attendees:

M. Strider - HDR	C. O’Gara - HDR

Purpose of Site Visit: Inspect At-Grade Xing
Safety Briefing By: M. Strider

Site Map



Grade Separation Review

Crossing Characteristics	Existing Condition
Track Characteristics:	Speed: 79-50 Rail Wt. <u>136</u> CWR; Joint Locations: Comp joints on either sides of crossing Crossing Surface: Concrete Panels Crossing Length: 40' Double Track General Condition: Good
Crossing Warning Devices	Type: Flashing light warning device with crossing gates - BFG Location: Off edge of pavement (NE and SW quadrants) Signal house in NE quadrant Condition: Up to current standards.
Roadway Characteristics	Posted Speed: 25MPH Surface: AC Width: 36' Crossing Angle: 86d Center Medians: No Curbs/Shoulders: Sidewalks end at ROW and peds and bikes are forced into roadway to cross
Adjacent Intersections	Commercial Driveway – 125' NW Von Euw Inters – 450' NW Gilbert Ave Inters – 190' SW
Existing Utilities	In Roadway: OH Crossing (Elec and Comm) Along RR: FOC, Elec meter pedestal (NE), vault (NE)
Geometric Issues/Constraints	
Pedestrian Activity	Yes
Bicycle Activity	Yes, used to connect to bike path at end of Von Euw
Available Right-of-Way	No. All adjacent lots are occupied.

Roadway Profile	Is roadway profile lower/level/ higher than track? Lower on each side
Rail Profile	Is crossing in level, sag, or crest segment?

	Can the track be raised/lowered?
Traffic Impact	Can roadway be closed during construction? Can traffic be maintained during construction?

Comments

Comments	<ul style="list-style-type: none"> • ROW gates present at NE and NW quadrants. No gates or fences at SW and SE quadrants • No “No Trespassing” Signs present any quadrant • ROW fence along NW side in poor shape
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Site Photos

RR Looking North East



RR Looking South West



Roadway Looking South East



Roadway Looking North West



Roadway Grade Crossing Site Visit Form

Date: 4/4/2018

Railroad Corridor: Niles – Downtown District

City/County: Fremont/Alameda

Road/Street: Dusterberry Way

DOT: 750037J

Subdivision/Mile Post: Niles MP 32.54

ADT/No. Trains 7,361/33

Attendees:

M. Strider - HDR	C. O’Gara - HDR

Purpose of Site Visit: Inspect At-Grade Xing

Safety Briefing By: M. Strider

Site Map



Grade Separation Review

Crossing Characteristics	Existing Condition
Track Characteristics:	Speed: 79-50 Rail Wt. <u>136</u> CWR; Joint Locations: Comp joints on either sides of crossing Crossing Surface: Concrete Panels Crossing Length: 90' Double Track General Condition: Good
Crossing Warning Devices	Type: Flashing light warning device with crossing gates - BFG Location: East in SW, West at back of curb. Signal house in S quadrant Condition: Up to current standards.
Roadway Characteristics	Posted Speed: 35MPH Surface: AC Width: 64' Crossing Angle: 87d Center Medians: No Curbs/Shoulders: Sidewalk is not wide enough, poles impede access along E side
Adjacent Intersections	Commercial Driveway – 63'SE Peralta Blvd Inters – 340'SE Commercial Driveway – 85'NW Hansen Ave Inters – 420'NW
Existing Utilities	In Roadway: SD MH, ATT vault, PGE vault, street lights, OH poles Along RR: FOC (SE), open trench (SE), OH poles Elec and Comm (SE)
Geometric Issues/Constraints	
Pedestrian Activity	Yes, both sides
Bicycle Activity	Yes but not designated
Available Right-of-Way	No. All adjacent lots are occupied.

Roadway Profile	Is roadway profile lower/level/ higher than track? Roadway slightly lower on each side
Rail Profile	Is crossing in level, sag, or crest segment? Level

	Can the track be raised/lowered?
Traffic Impact	Can roadway be closed during construction? Can traffic be maintained during construction?

Comments

Comments	<ul style="list-style-type: none">• Right of way at quadrants not protected by gates or fence.• Not adequate space for pedestrians to pass behind signals on sidewalk.•
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Site Photos

RR Looking North East



RR Looking South West



Roadway Looking South East



Roadway Looking North West



Roadway Grade Crossing Site Visit Form

Date: 4/4/2018

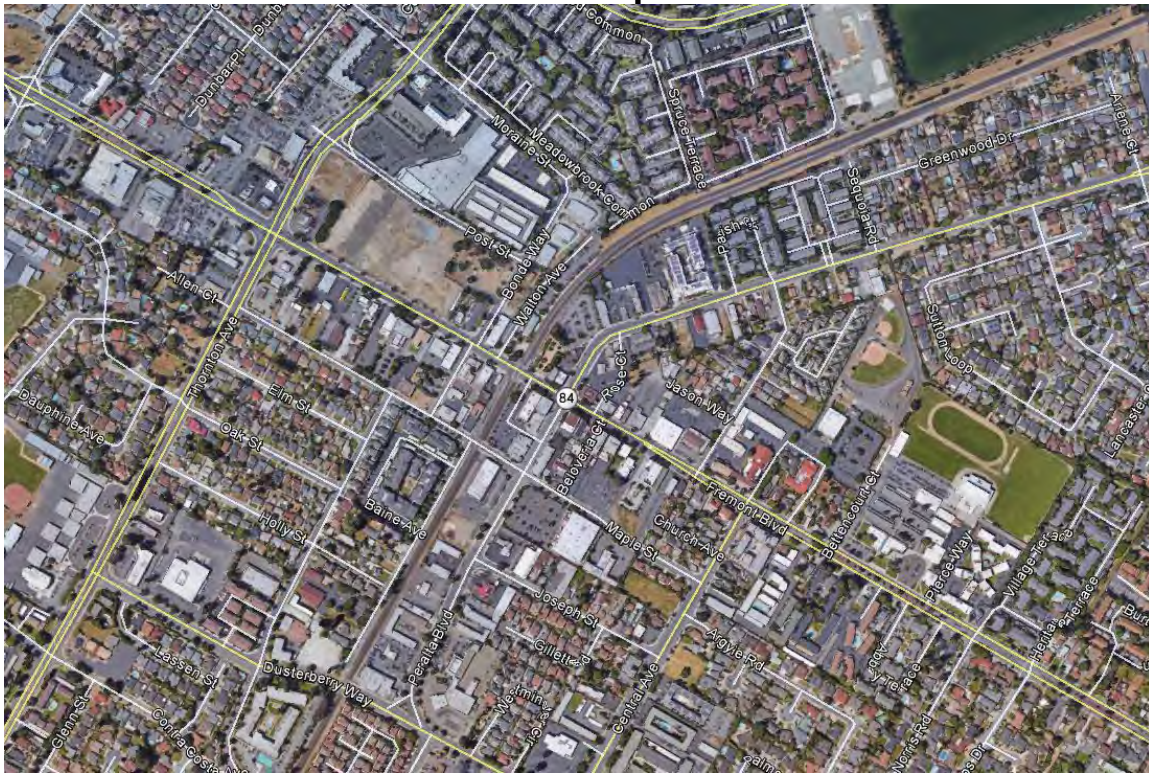
Railroad Corridor: Niles – Downtown District
City/County: Fremont/Alameda
Road/Street: Fremont Blvd
DOT: 750039X
Subdivision/Mile Post: Niles MP 32.2
ADT/No. Trains 25,665/33

Attendees:

M. Strider - HDR	C. O’Gara - HDR

Purpose of Site Visit: Inspect At-Grade Xing
Safety Briefing By: M. Strider

Site Map



Grade Separation Review

Crossing Characteristics	Existing Condition
Track Characteristics:	Speed: 79-45 Rail Wt. <u>136</u> CWR; Joint Locations: Comp joints on either sides of crossing Crossing Surface: Concrete Panels Crossing Length: 100' Double Track General Condition: Good
Crossing Warning Devices	Type: Flashing light warning device with crossing gates and cantilevers- BFG Location: East side in SW, W side off edge of pavement. Signal house in E quadrant Condition: Up to current standards.
Roadway Characteristics	Posted Speed: 30MPH Surface: AC Width: 60' Crossing Angle: 90d Center Medians: No Curbs/Shoulders: Sidewalks. Reduced clearance at back of signal on E quadrant. SW ends at ROW and turns to AC.
Adjacent Intersections	Commercial Driveway – 100'NW Alley – 20'NW Bonde Way Inters – 215' NW Commercial Driveway – 40'SE Peralta Blvd Inters – 225'SE
Existing Utilities	In Roadway: Streetlights, Water meter, Fire Hydrants, PGE Vault, Comm Vault, Inlets Along RR: SD MH, PGE gas crossing SW side,
Geometric Issues/Constraints	
Pedestrian Activity	Yes both sides. Centerville Station located here and very busy ped area
Bicycle Activity	Yes both sides
Available Right-of-Way	No. All adjacent lots are occupied.

Roadway Profile	Is roadway profile lower/level/ higher than track? Slightly lower on each side
Rail Profile	Is crossing in level, sag, or crest segment? Level Can the track be raised/lowered?
Traffic Impact	Can roadway be closed during construction? Can traffic be maintained during construction?

Comments

Comments	<ul style="list-style-type: none"> • Bus Route • Signs of vehicles bottoming out at crossing • Discontinuity in SW along S side of crossing. • AC at panel interface raised along N side of crossing
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Site Photos

RR Looking North East



RR Looking South West



Roadway Looking South East

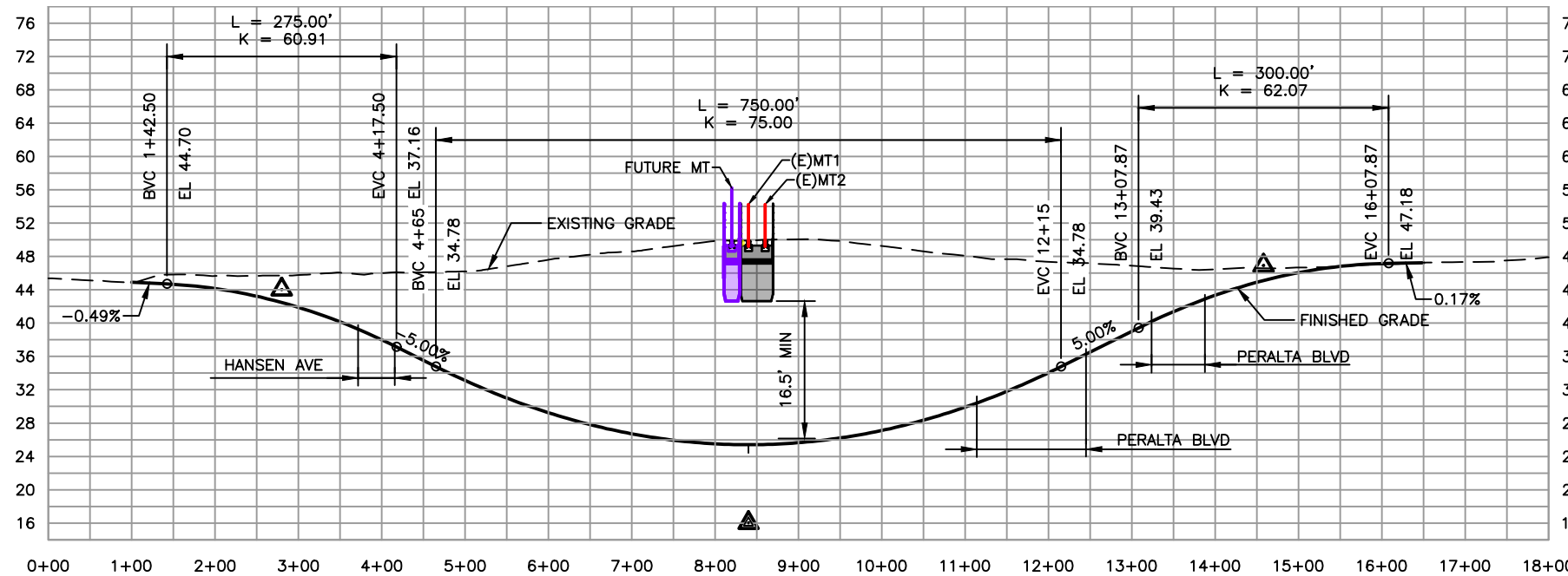
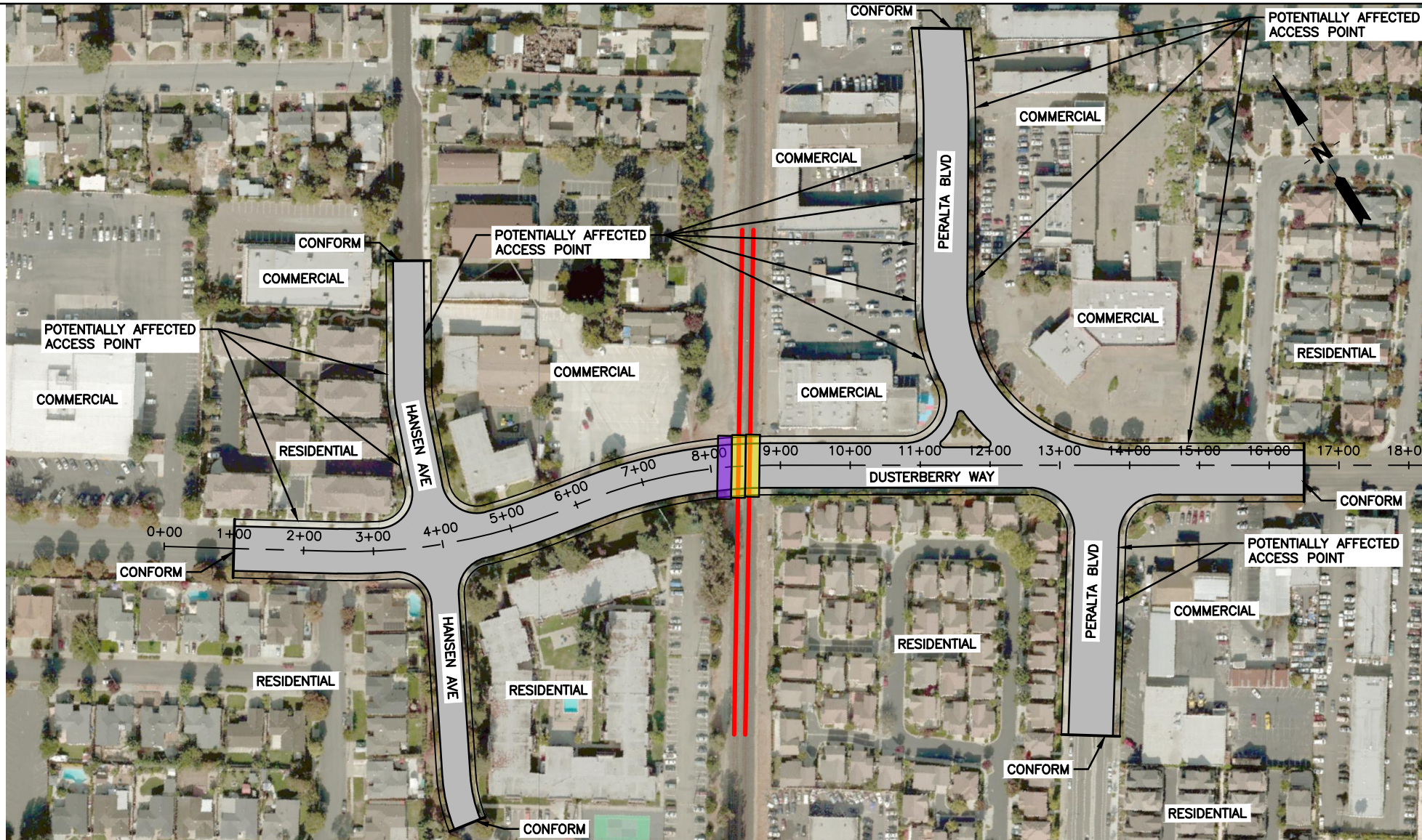


Roadway Looking North West

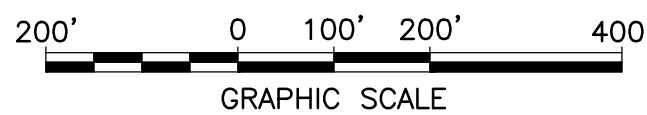



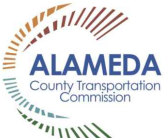
APPENDIX B

Conceptual Grade Separation Plans



DUSTERBERRY WAY PROFILE



 	DRAWN BY:	CJO	ALAMEDA COUNTY TRANSPORTATION COMMISSION LOCATION: DUSTERBERRY WAY DWG TITLE: ROADWAY UNDERPASS EXHIBIT
	CHECKED BY:	WGS	
	DATE:	4/16/18	
	SHEET NUMBER		