

Emeryville Railroad Quiet Zone Study



Presentation of Findings



Prepared for the Redevelopment Agency of the City of Emeryville
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in association with Adavant Consulting
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Study Purpose

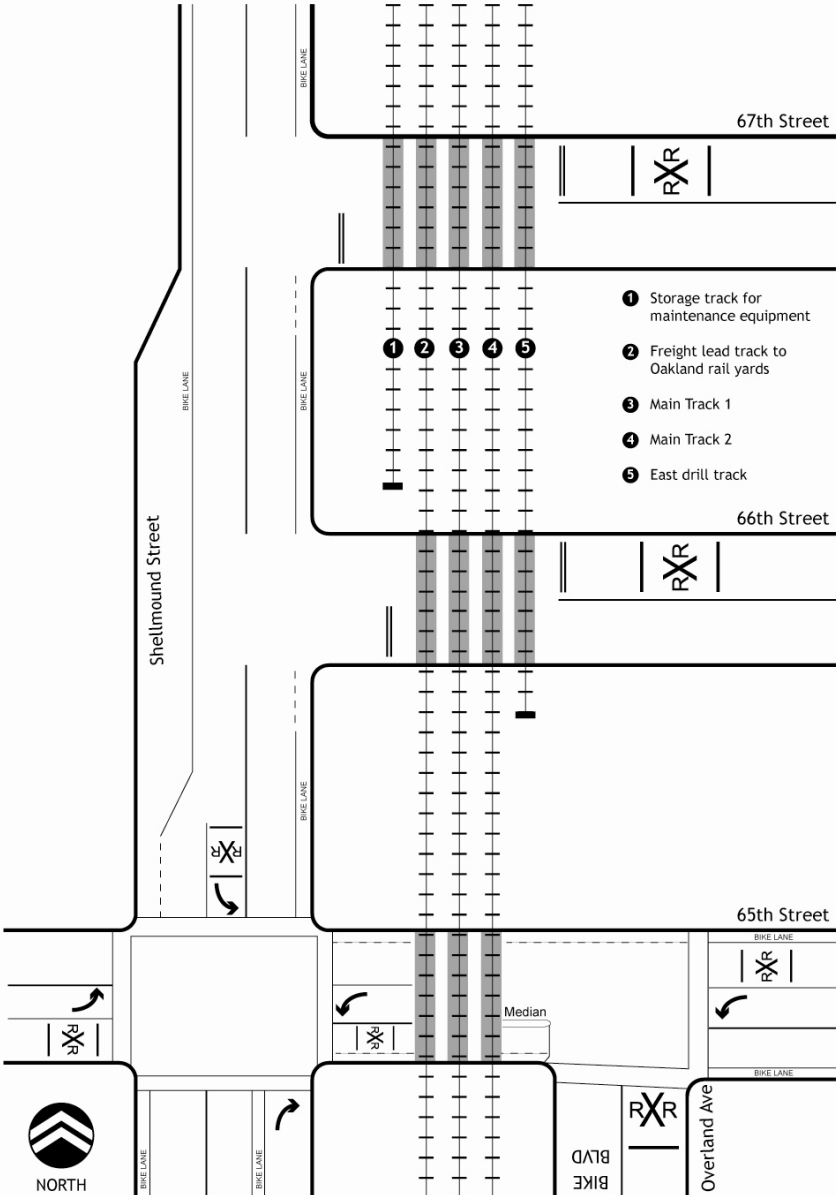


- Explore the potential for a Quiet Zone in the City of Emeryville
- Quiet Zone would include the 65th, 66th and 67th Street crossings of the UP Martinez Subdivision

Study Area



At-grade Crossing Diagram



Daily Trains & Traffic



	Existing		2030	
	Trains	Vehicles	Trains	Vehicles
65 th	74	5,400	106	8,500
66 th	74	2,100	106	3,300
67 th	74	2,200	106	3,500

Other Factors



- Pedestrian and bicycle traffic
 - 65th Street has most of this traffic
- Land use changes
 - Marketplace Redevelopment
 - Northwestern section of City has been suggested for an industrial enclave or eco-park

QZ Process



The Nationwide Significant Risk Threshold (NSRT)

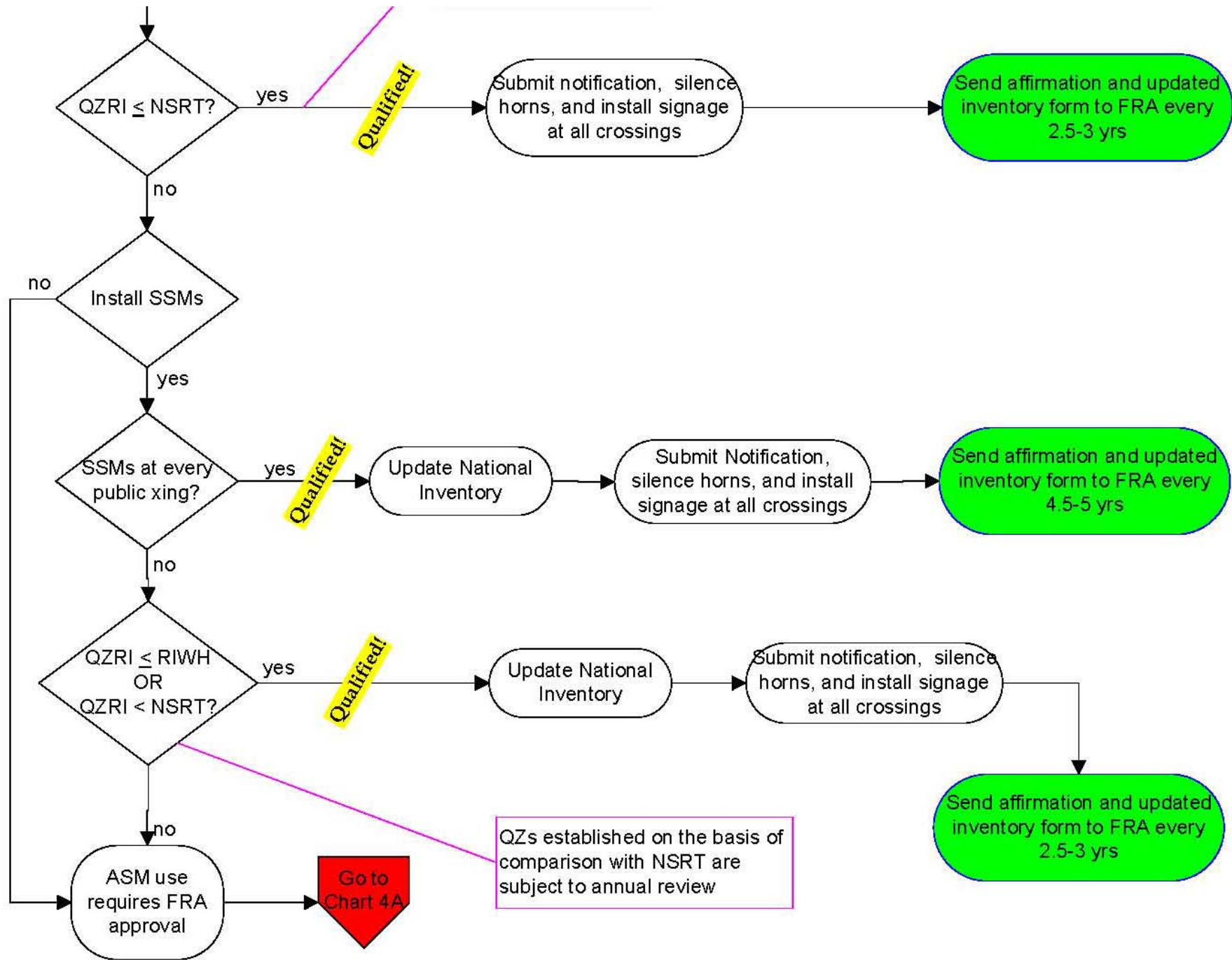
- Calculated for a quiet zone: a look into the past
- Average level of risk with locomotive horns sounded

The Risk Index with Horns (RIWH)

- Measure of risk when horns sounded within a quiet zone, assuming some improvements

The Quiet Zone Risk Index (QZRI)

- Average risk index without horns. The QZRI is the measurement used to determine if a quiet zone can be established and which, if any, improvements will be necessary.



Change Needed



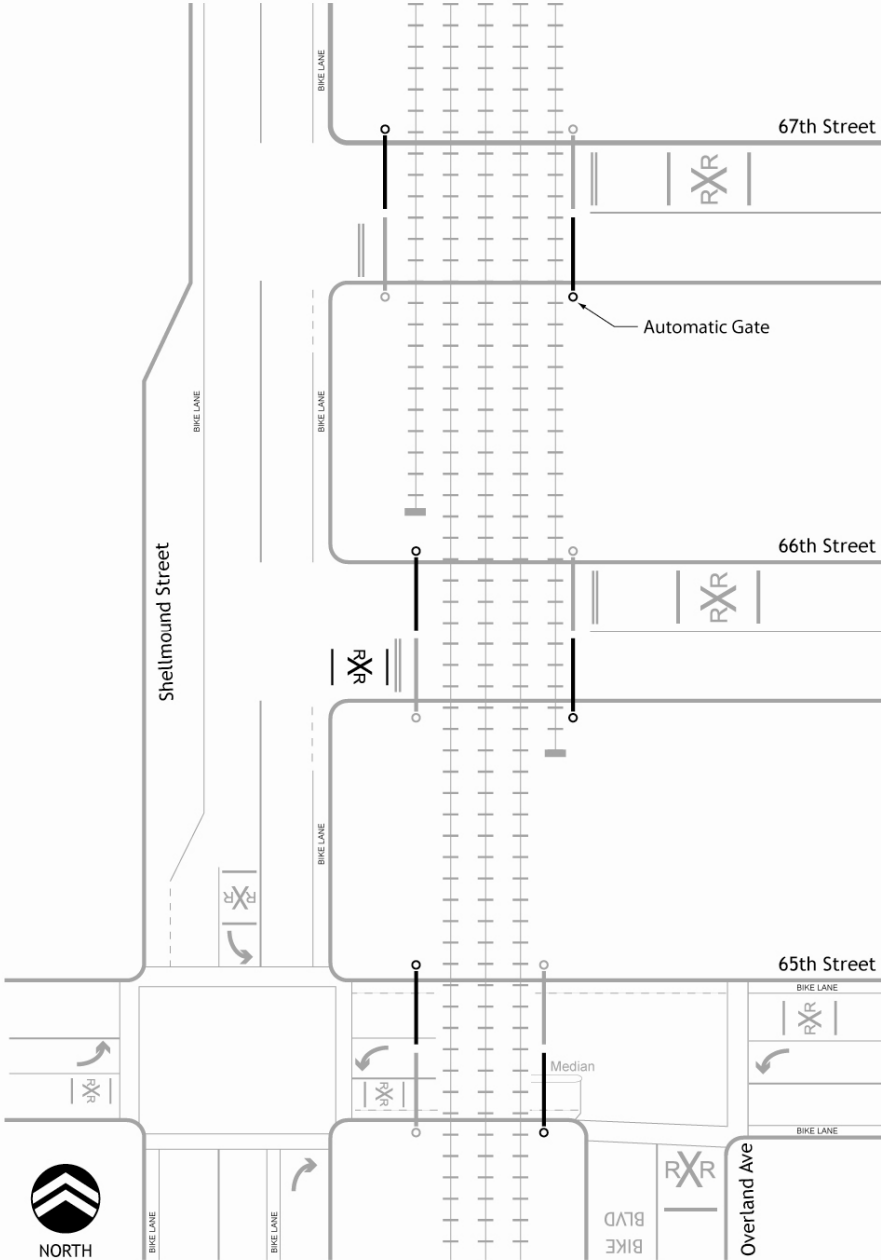
- QZRI: 50,879.90
- NSRT: 19,047.00
- QZRI > NSRT
- *Ergo:*
 - Quiet Zone implementation will require Supplementary Safety Measures (SSMs)

SSMs

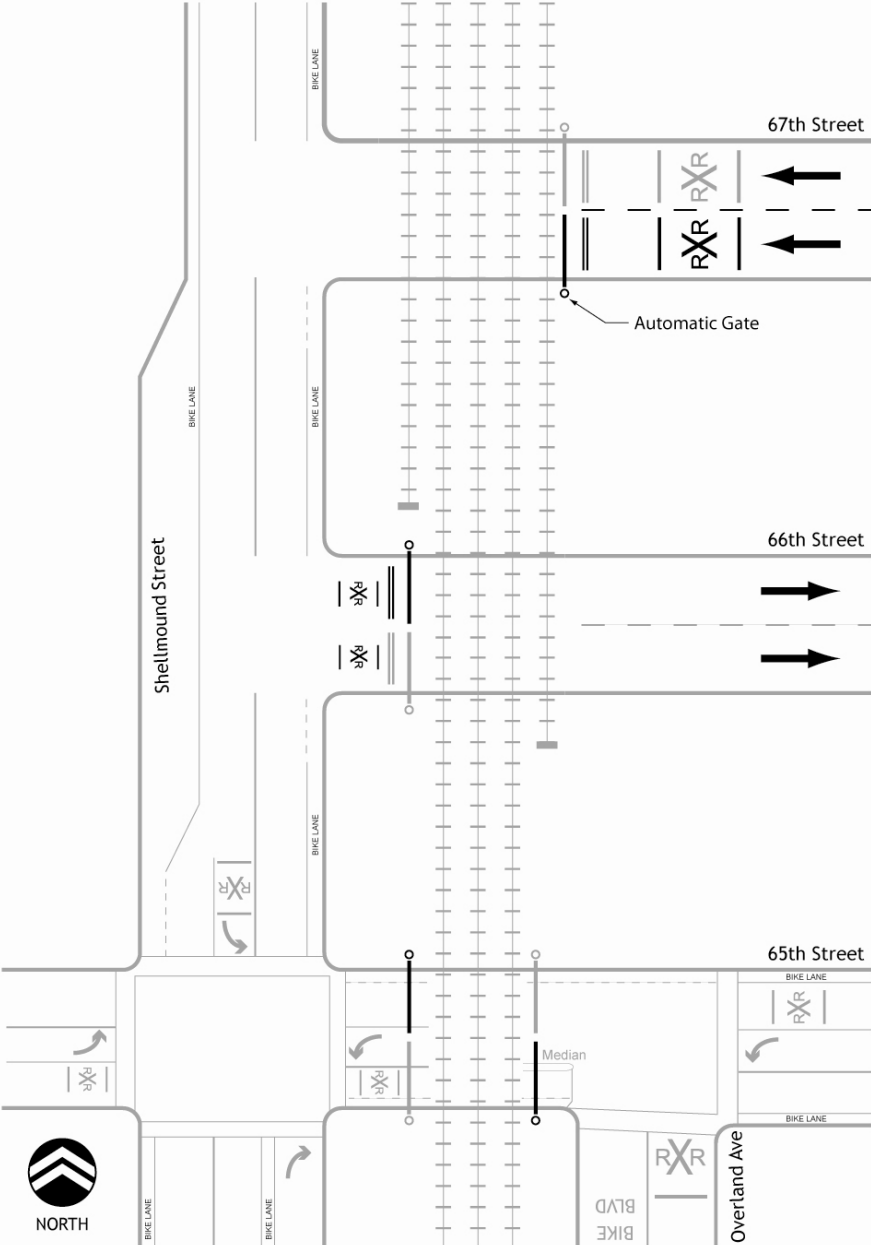


- Four quadrant gates (\$1.5 M)
- Gates w/ medians, channelization (\$45 K)
- One-way streets (\$1.8 M)
- Permanent closure (\$50 K)
- Grade Separation (\$? M)

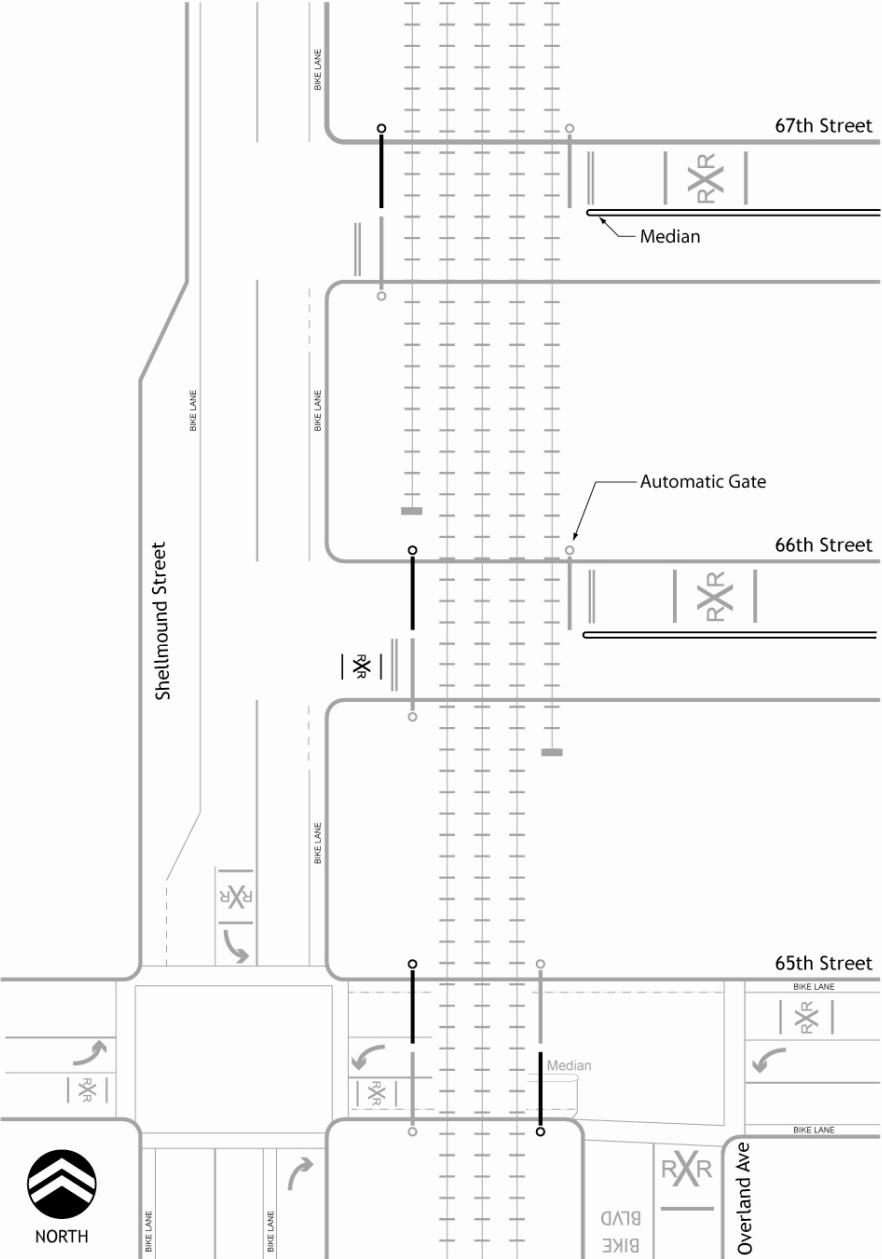
Scenario 1



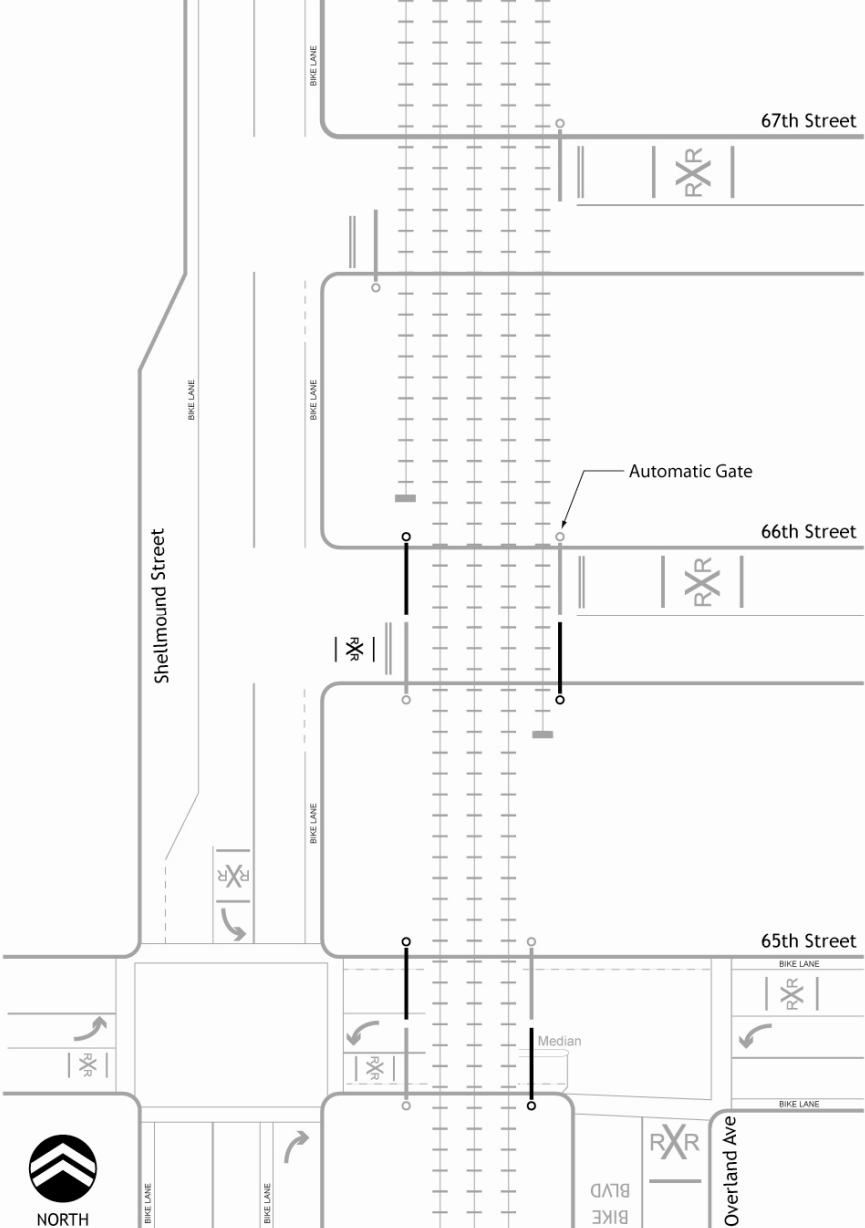
Scenario 2



Scenario 3



Scenario 4



QZRI per Scenario



Scenario	Existing	2030	Cost
1	11,702.83	13,207.28	\$4.5 M
2	10,155.63	11,447.30	\$3.3 M
3	10,774.33	12,151.29	\$3.8 M
4	23,327.13	26,443.84	\$3.0 M
NSRT	19,047.00	19,047.00	
RIWH	30,503.54	37,578.02	

Comparisons



- Scenarios 1 through 3 utilize SSMs at all crossings
 - These are qualified to become QZs
- Scenario 4 has no SSMs at 67th Street
 - Still it is qualified as its QZRI < RIWH
 - QZ review for Scenario 4 would be more frequent: 2.5-3.0 years vs. 4.5-5.0 years

Considerations



- Four main tracks vs. two today
 - All four scenarios would be feasible
- Partial Quiet Zone
 - No cost savings
- Alternative Safety Measures (ASMs)
 - Would require FRA approval, potential delay
- Wayside horns
 - Sound impacts to 65th Street residents

CPUC & FRA Comments



- Field tour with representatives of both agencies, meeting with City on March 11
- CPUC
 - Identified safety concerns at 65th Street
 - Suggested 66th / 67th become a 1-way couplet
 - Wayside horns appear problematic
- FRA
 - QZ will not eliminate all horn blowing

Train Horns Post QZ



- Safety considerations
 - Up to engineer’s discretion
- Emeryville Station - “G Code” Rule
 - Horns blow when trains depart
- Overall reduction potential versus:
 - Today: 72%
 - 2030: 74%

Evaluation

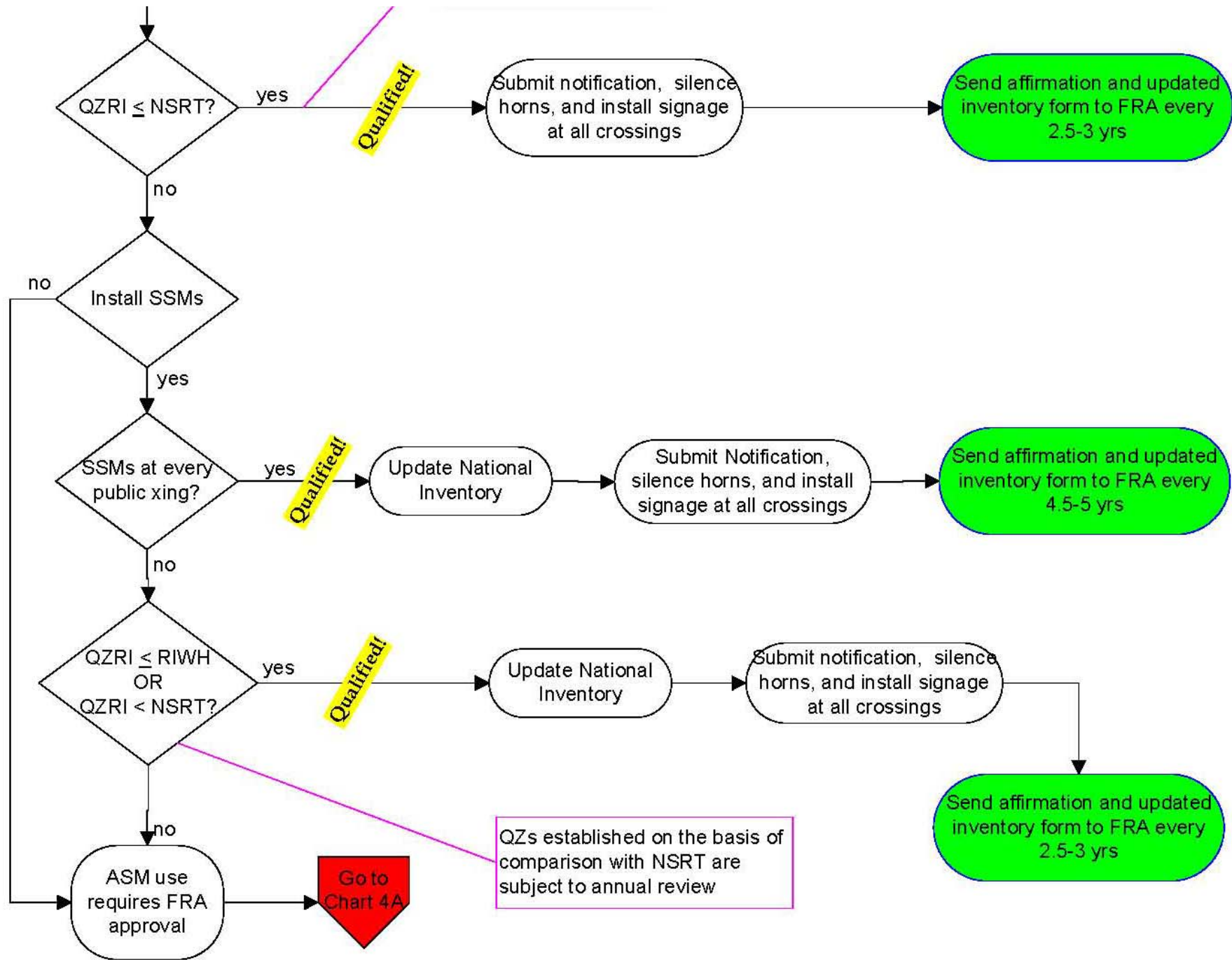


Criteria	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Overall Safety	3	3	3	1
Pedestrian Safety	3	2	2	1
Capital Cost	2	3	2	3
Local Impact	3	2	3	3
FRA Review	3	3	3	2
Total	14	13	13	10

The Winner Is...



- Scenario 1 performs best overall, with Scenarios 2 and 3 close behind
- Scenario 2's 1-way couplet would affect existing businesses on 66th and 67th Streets
- Scenario 3 may be impractical given current land uses
- Scenario 4 had lowest score, and would require more frequent recertification



Next Steps



- SSMs must be designed and installed before QZ can be implemented
- Diagnostic team review: FRA, CPUC and RRs need to be part of the effort
- CPUC approval of crossing modifications required before construction can begin
- Periodic updates to FRA crossing inventory