

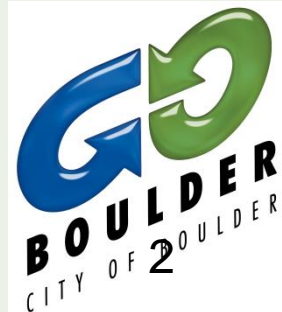


# City of Boulder Railroad Quiet Zones

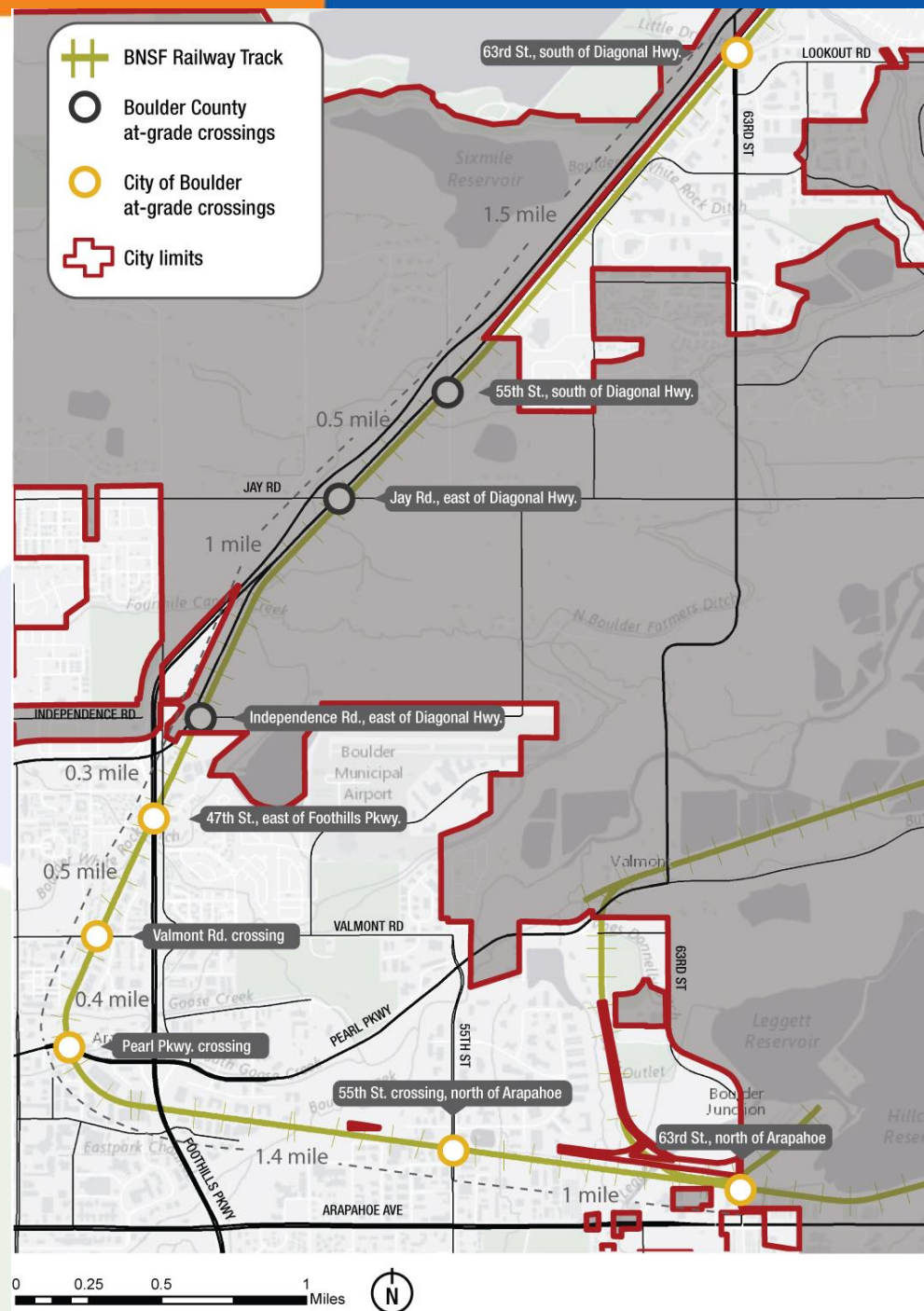
December 15, 2016

# WHY RAILROAD QUIET ZONES?

- Purpose to address impacts of train horn noise
- “Quiet Zones” are regulated by the Federal Railroad Administration
- Review by Colorado Public Utilities Commission
- Coordination with BNSF, Boulder County, and CDOT



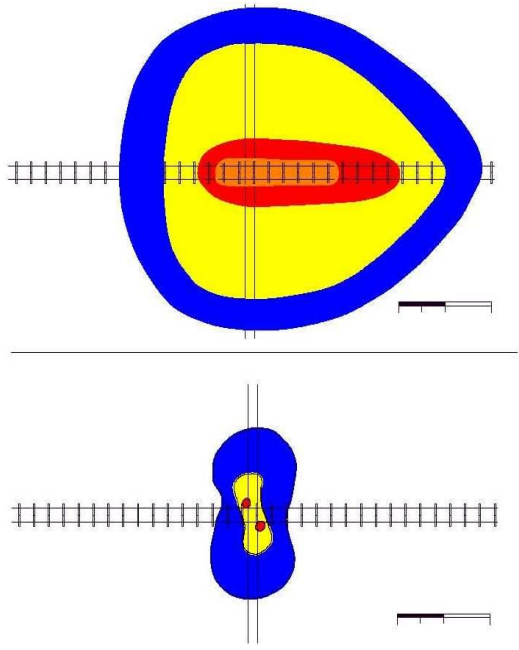
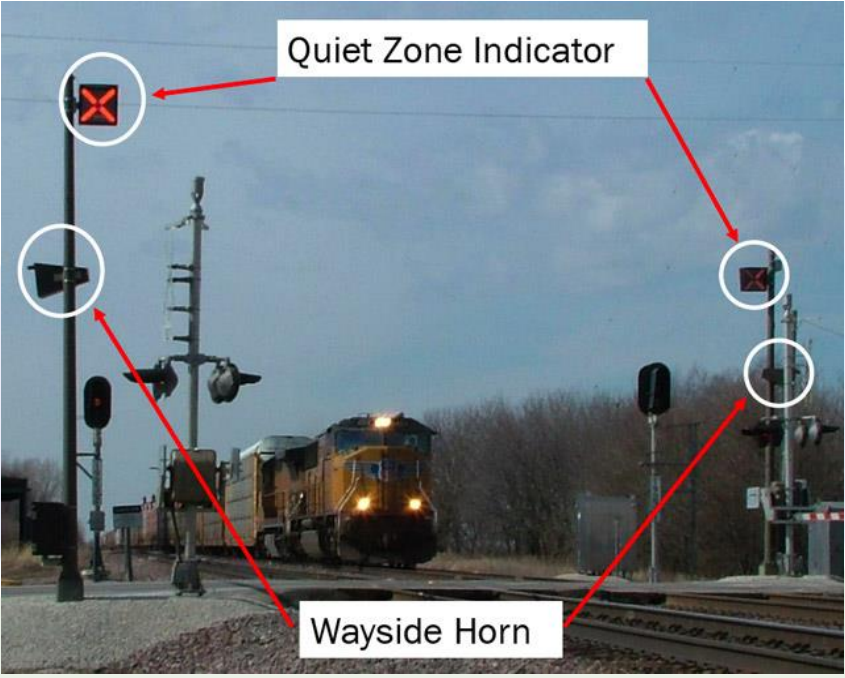
# City of Boulder Area Railroad Crossings



# What are Quiet Zones?



# Wayside Horns



# How much do they cost?

- Crossing improvements and costs vary by type and location
- Total estimate for Boulder area crossings is approx. \$5 M
- Initial \$1.3 M funding provided through regional grant + city funds
- Need phasing/implementation plan
- Continue to seek additional funding

# City of Boulder

## Sound Cloud Analysis

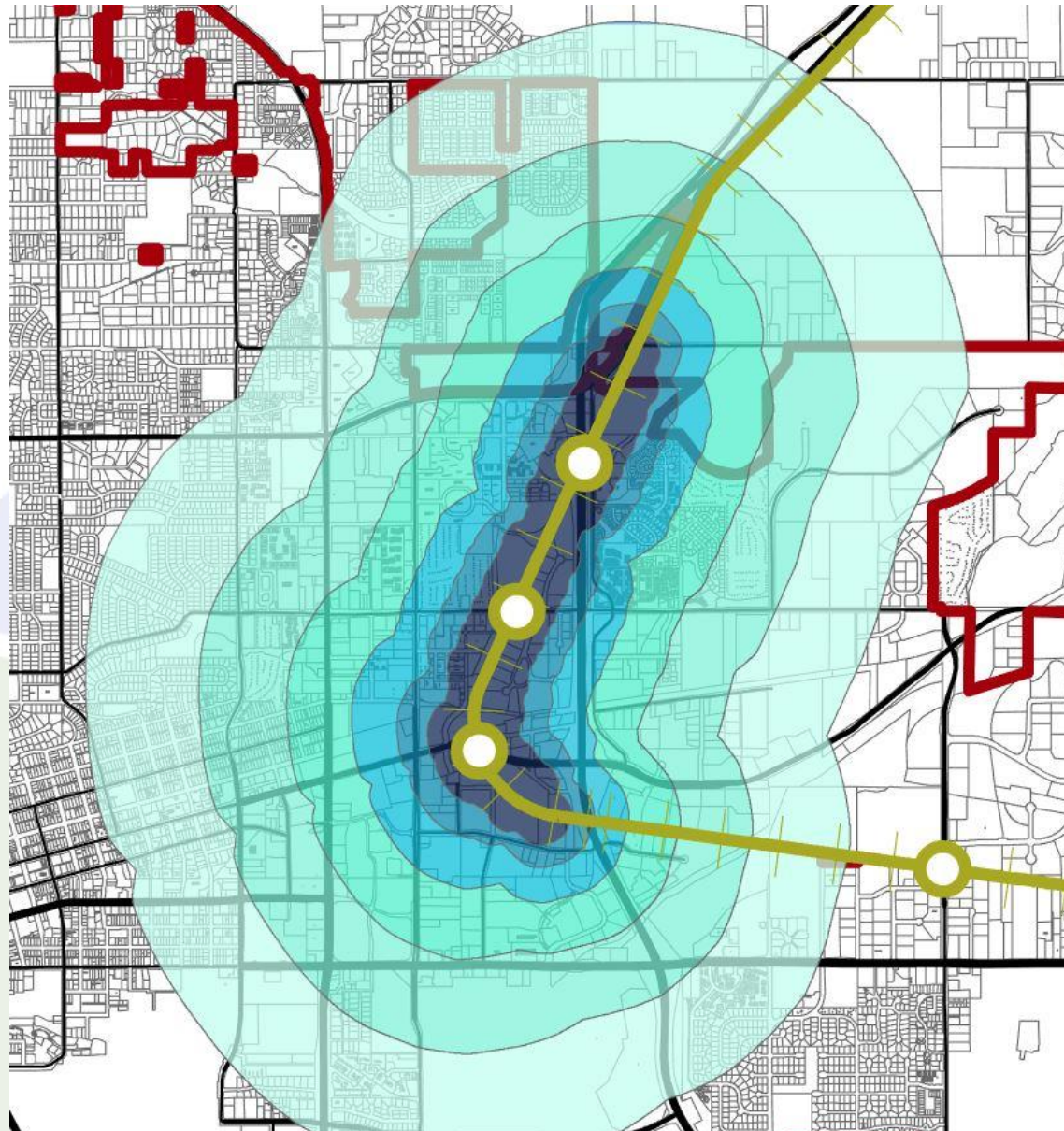
- Use GIS mapping software to identify number of residential units, residential population, and number of people living within the sound cloud

# Sound Clouds

Sound clouds estimate decibels of sound emanating from the train horn

Categories of sound cloud are:

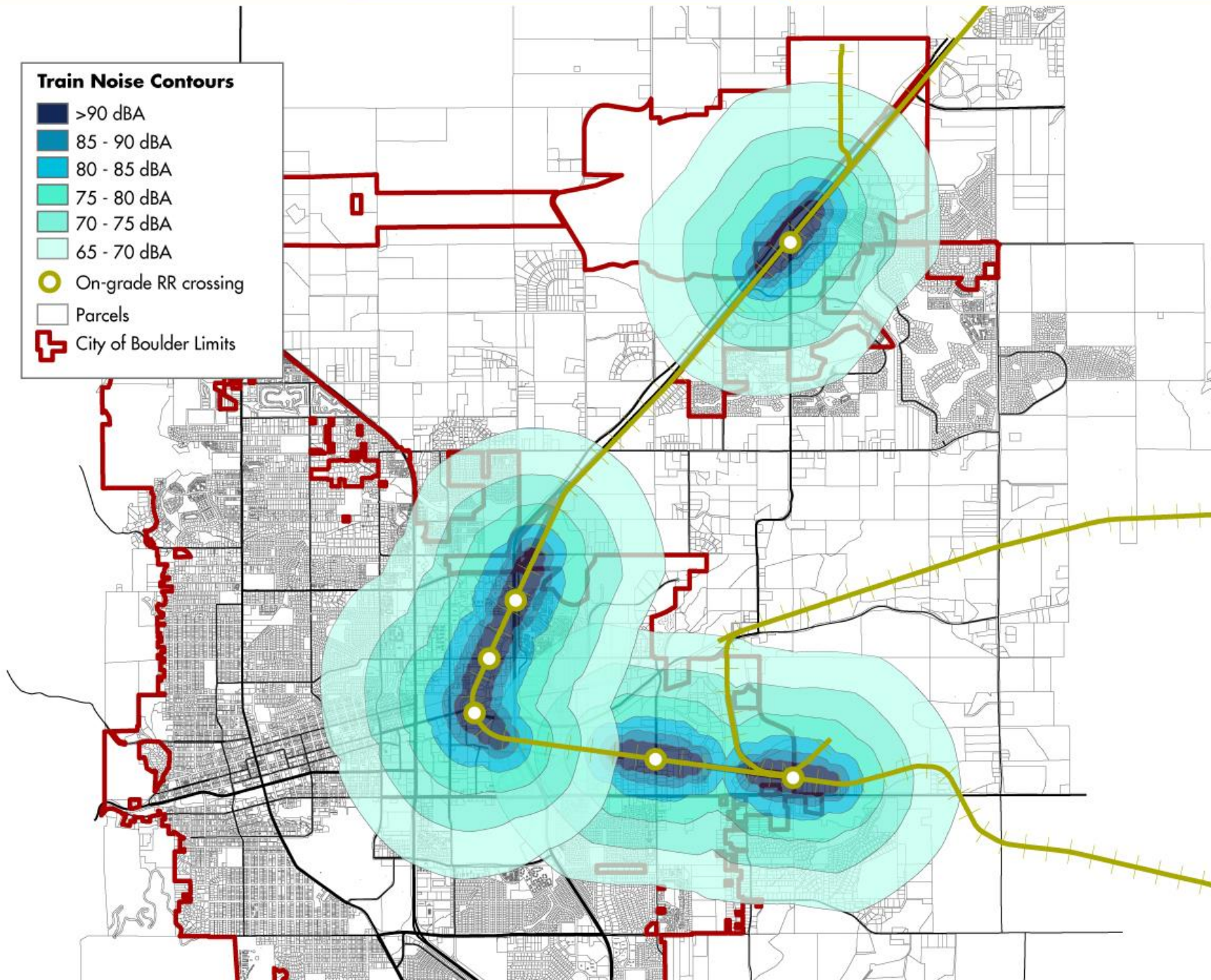
- 65-70 dBA
- 70-75 dBA
- 75-80 dBA
- 80-85 dBA
- 85-90 dBA
- >90 dBA





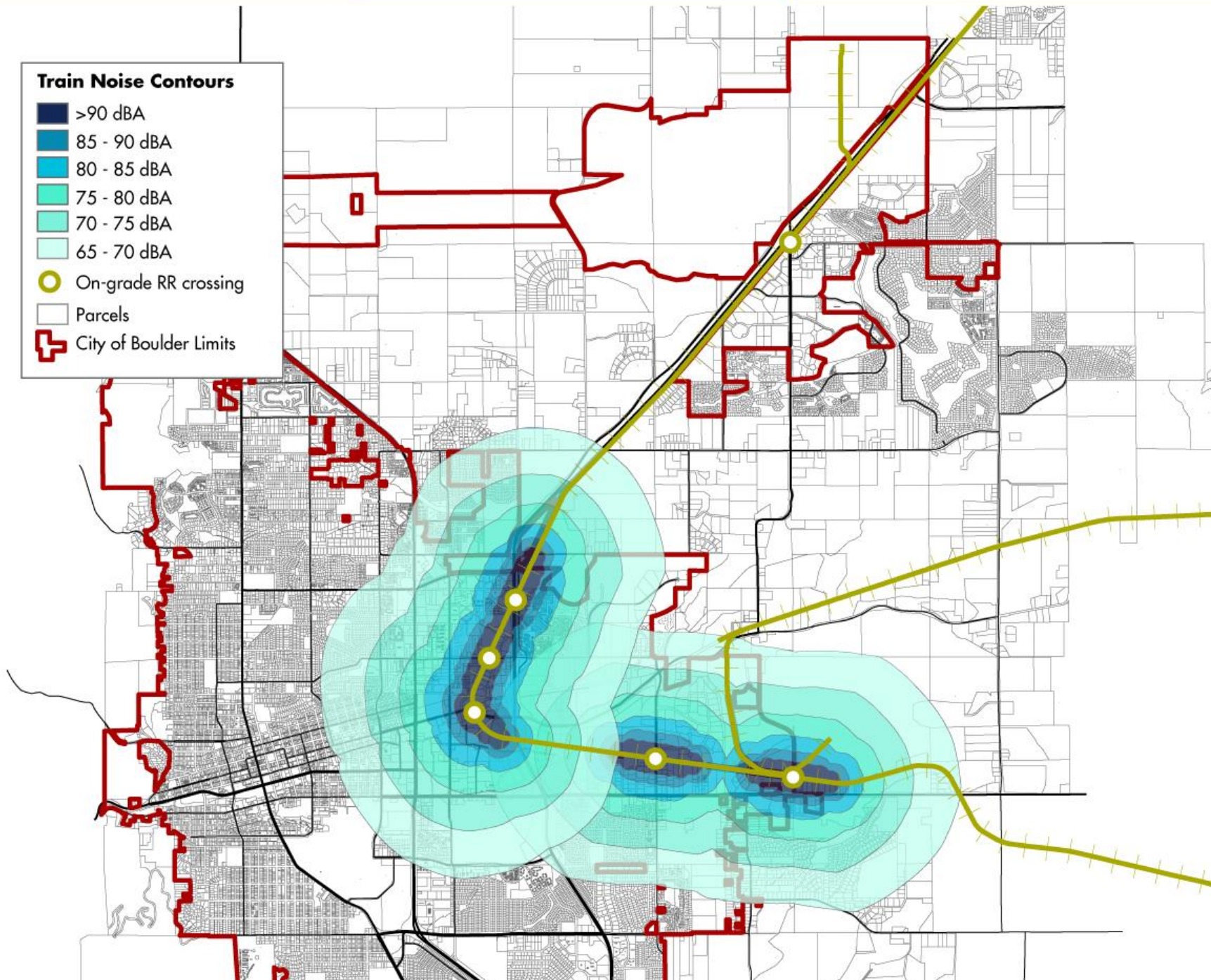
### Train Noise Contours

- >90 dBA
- 85 - 90 dBA
- 80 - 85 dBA
- 75 - 80 dBA
- 70 - 75 dBA
- 65 - 70 dBA
- On-grade RR crossing
- Parcels
- City of Boulder Limits



### Train Noise Contours

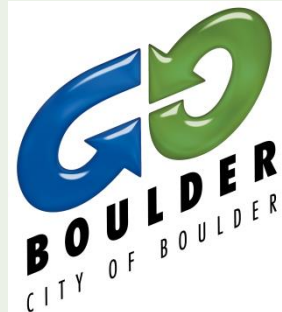
- >90 dBA
- 85 - 90 dBA
- 80 - 85 dBA
- 75 - 80 dBA
- 70 - 75 dBA
- 65 - 70 dBA
- On-grade RR crossing
- Parcels
- City of Boulder Limits



# Quiet Zone Scenario

Railroad Crossing	Supplemental Safety Measure Options				Cost	Number of people living within sound cloud analysis	Number of Jobs within sound cloud analysis
	Raised Median	Channelizing Devices	4- Quad Gates	Wayside Horns			
North 63rd Street					\$620,000	1,311	8,722
					\$400,000		
47th Street					\$280,000	25,939	28,916
					\$620,000		
Valmont Road					\$480,000	3,468	16,560
					\$480,000		
Pearl Parkway					\$250,000	3,468	16,560
					\$310,000		
South 55th Street					\$360,000	3,468	16,560
					\$780,000		
South 63rd Street					\$350,000	3,468	16,560
					\$350,000		

\* Population is based on a 98.33% occupancy rate and 2.16 people per dwelling unit added to any group quarters population that may occur.



CROSSING	STREET	M.P.	SSM Options			Wayside Horns	(2) Opinion of Construction Cost Rounded	Comments/Assumptions
			Raised Medians	Channelizing Devices	4-Quad Gates <sup>(1)</sup>			
244827V	North 63rd Street	35.29			X		\$620,000	CWT upgrade & new gates
						X	\$400,000	CWT upgrade & 3 horns
244824A	North 55th Street	33.77			X		\$480,000	CWT upgrade & new gates
						X	\$310,000	CWT upgrade & 2 horns
				X			\$110,000	1-60 ft & 1-100 ft channelizing devices
			X				\$280,000	1-60 ft & 1-100 ft medians; some curb/gutter
244823T	Jay Road	33.25			X		\$560,000	3 exit gates & CWT upgrade
						X	\$320,000	CWT upgrade & 2 horns
244822L	Independence Road	32.33			X		\$450,000	CWT upgrade; 2 exit gates; stub channeliz.
					X		\$480,000	CWT upgrade; 2 exit gates; stub medians
						X	\$310,000	CWT upgrade & 2 horns
				X			\$110,000	1-60 ft & 1-100 ft channelizing devices
			X				\$300,000	1-60 ft & 1-100 ft medians; full curb/gutter
244821E	47th Street	32.04	X				\$280,000	South median extension to 100 ft
244818W	Valmont Road	31.45	X				\$620,000	CWT upgrade & new gates
					X		\$480,000	CWT upgrade & new gates
244815B	Pearl Parkway	27.83			X		\$480,000	CWT upgrade & new gates
244813M	55th Street (south end)	26.38	X				\$250,000	CWT upgrade & new gates
						X	\$310,000	CWT upgrade & 2 horns
244811Y	63rd Street (south end)	25.37	X				\$360,000	Extension of 4 medians to 60 ft
					X		\$780,000	CWT upgrade & new gates
						X	\$350,000	CWT upgrade & 4 horns

Range of Costs: **\$2,780,000 (Low)**  
**\$4,610,000 (High)**

# How to create phasing plan?

- Prioritize crossings and/or sets of crossings
  - Coordination with city & county locations
- Develop evaluation criteria, examples:
  - Safety
  - # of people living/working near the crossings
  - Street characteristics
  - Costs & Implementability
  - Opportunities to leverage resources & benefits
  - Public/private partnerships
  - Sound cloud analysis
  - Others?

# What is process and timeline to create Quiet Zones?

- Fall/Winter 2016- Spring 2017:
  - Update technical report and cost estimates, inc sound cloud
  - Begin community engagement to evaluate and prioritize crossing improvements
  - Develop phasing plan
- Mid-2017 - 2018:
  - Select initial crossing locations, complete technical analysis, design/engineering
  - Review/approval process with FRA
  - Coordination with BNSF, PUC, County, CDOT
- 2018-19:
  - Construction of selected quiet zones
- Continue to seek funding for remaining crossings

# How to stay involved?

- On-line info updated:
  - [www.bouldertransportation.net](http://www.bouldertransportation.net)
  - On-line survey (Winter 2016/17)
- On-going city & county coordination
- Additional outreach events 2017+

# Thank You

## Contact Information:

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