

HILLCREST DRIVE TRAFFIC STUDY AND PROPOSED IMPROVEMENTS

April 12, 2016



Scott Murphy
City Engineer
City of Montrose

AGENDA

- ▶ Existing Conditions
 - ▶ Hillcrest Intersection Study
 - ▶ Signal vs. Roundabout
 - ▶ Selection
 - ▶ Schedule for Implementation
 - ▶ Questions
- 

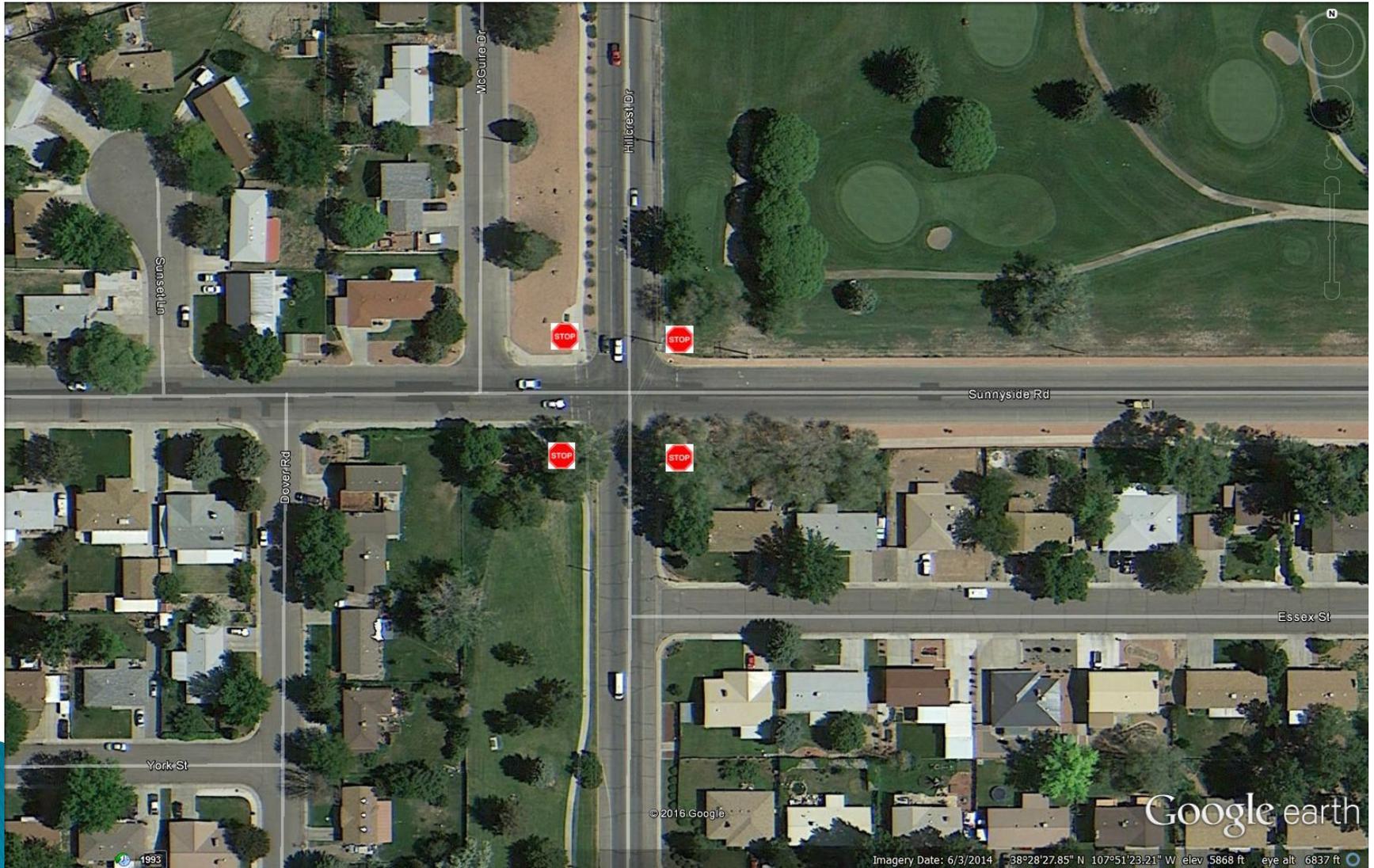
EXISTING CONDITIONS

Miami & Hillcrest



EXISTING CONDITIONS (Cont.)

Sunnyside & Hillcrest



EXISTING CONDITIONS (Cont.)

Niagara & Hillcrest



TRAFFIC STUDY

Goal: Utilize accepted engineering science and best practices to select and implement the safest, functional, most cost-effective solution to accommodate continued growth of the Hillcrest corridor

NOT THIS!



TRAFFIC STUDY (Cont.)

- ▶ Evaluate performance now and in 2036
- ▶ Counts by City
 - Miami
 - Sunnyside
 - Niagara
- ▶ Scenarios:
 - Do Nothing
 - Signal
 - Roundabout



2016 HILLCREST INTERSECTIONS TECHNICAL REPORT

MARCH 16, 2016

For:
CITY OF MONTROSE
SCOTT MURPHY
1221 64.50 ROAD
MONTROSE, CO 84102



Todd A. Johnson, P.E.
V.P. – Director of Professional Services
For and on behalf of Calibre Engineering, Inc.

TRAFFIC STUDY (Cont.)

1,150 Vehicles/Hour



TRAFFIC STUDY (Cont.)

KEY FINDINGS

- ▶ Typical peak hour today
- acceptable
- ▶ Typical peak hour 2036
- unacceptable
- ▶ Roundabouts are a viable solution - OK now
- ▶ Signals would provide capacity but necessary warrants are not met



SIGNALS VS. ROUNDABOUTS



VS



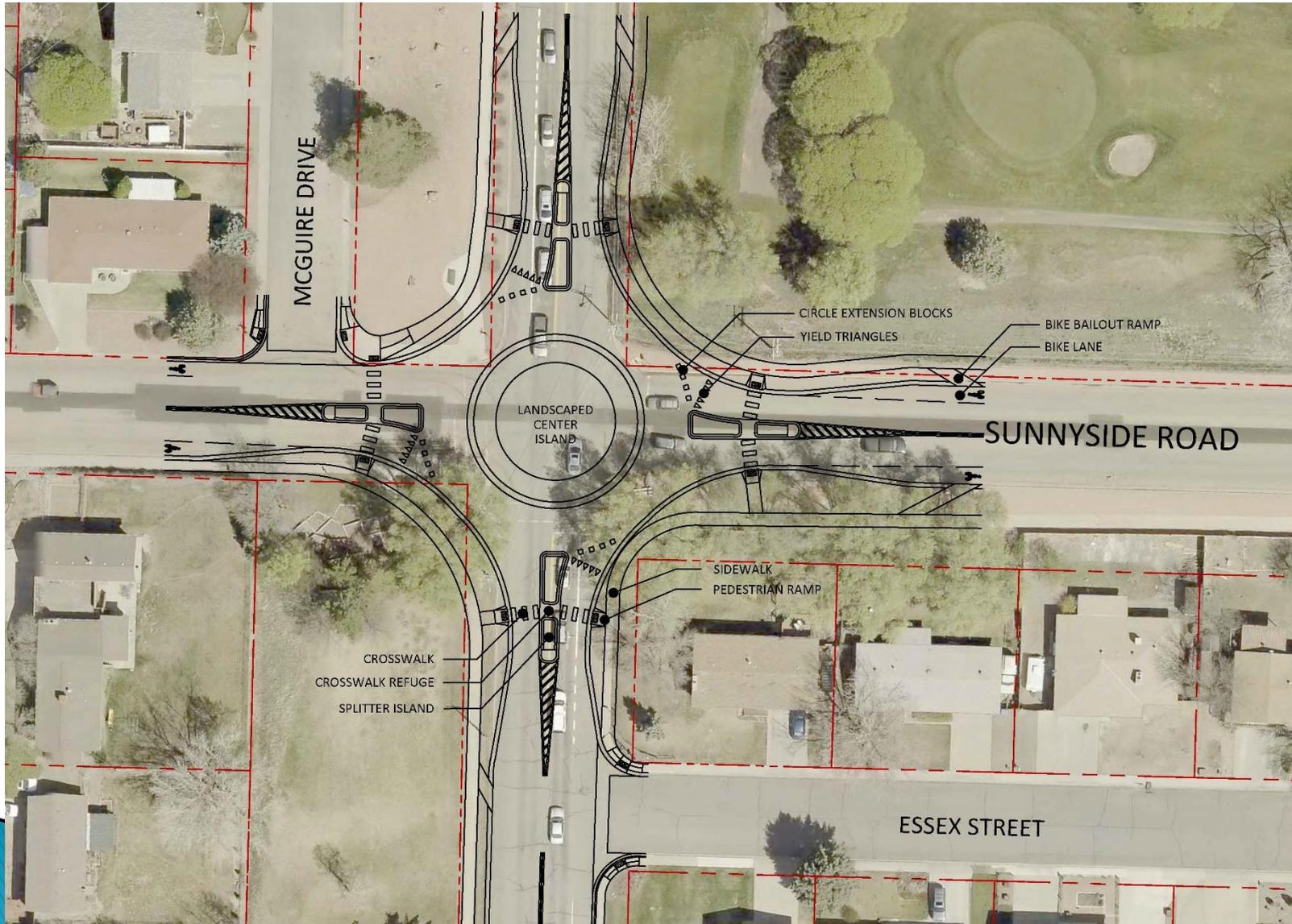
Consideration	Signal	Roundabout	Winner
Capacity/Warrant Mid-Day Use	Signal not Warranted by <u>MUTCD Warrant</u>	OK Anytime Lowest Delay Mid-Day	
Safety: Collision Severity	<u>-Signal Collisions Generally More Severe</u> <u>-Higher Speeds and Head-On Potential</u> Roundabouts -76% Reduction in Injury/Fatal		
Safety: Collision Frequency	Roundabouts - 35% Reduction in All Crashes <u>Ogden/Woodgate</u> Sunnyside/Hillcrest Miami/Hillcrest		
Safety: Pedestrian/Bikes	-Higher Speeds - Signal Light Protection	<u>Refuge Islands</u> <u>Bike Bailout Ramps</u> 30-40% Less Pedestrian Crashes 0 ped fatality in US/ 1 bike	

Source: National Cooperative Highway Research Program Report 672.
 Roundabouts: An Informational Guide

Consideration	Signal	Roundabout	Winner
Traffic Calming	Encourages Higher-Speed Free Flow	Natural Traffic Calming	
Commercial Truck Traffic (Semi-Trailer)	Free Flowing	<u>Passable but Discouraged</u>	
Aesthetics	Addition of Signal Light	<u>Landscaped Center Island</u>	
Familiarity: Montrose	Currently: 20 Signals, 2 Roundabouts		
Familiarity: State	<u>Roundabouts in Colorado</u> FHWA: "Proven Safety Countermeasure"		
Cost	Signal: \$ Geometry Improvements: \$ Operation: \$	Roundabout: \$\$ Operation: -	
Mid-Block Gaps	Roundabouts may Reduce Available Gaps for Side-Street Traffic		

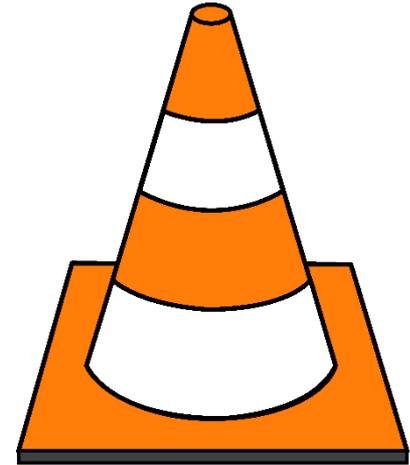
SELECTION

Roundabouts Through Corridor

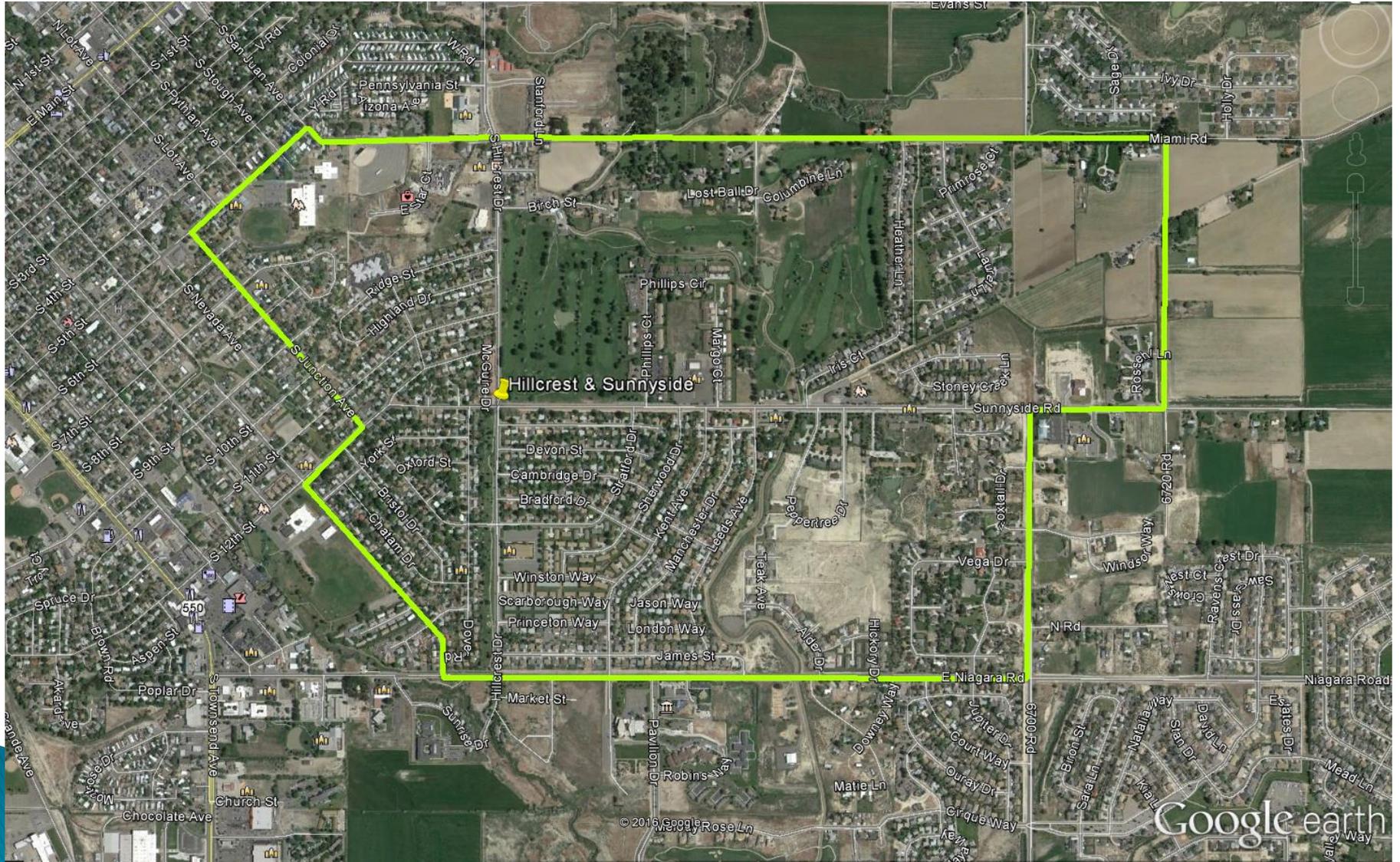


SCHEDULE

- ▶ Sunnyside: Mid-Summer 2016
- ▶ Miami: Mid-Summer 2017
(pending budget approval and ROW purchase)
- ▶ Niagara: Not scheduled at this time



DETOUR



QUESTIONS?



Please send an email to receive project updates
smurphy@ci.montrose.co.us

HYPERLINK SLIDES



Manual on Uniform Traffic Control Devices

for Streets and Highways

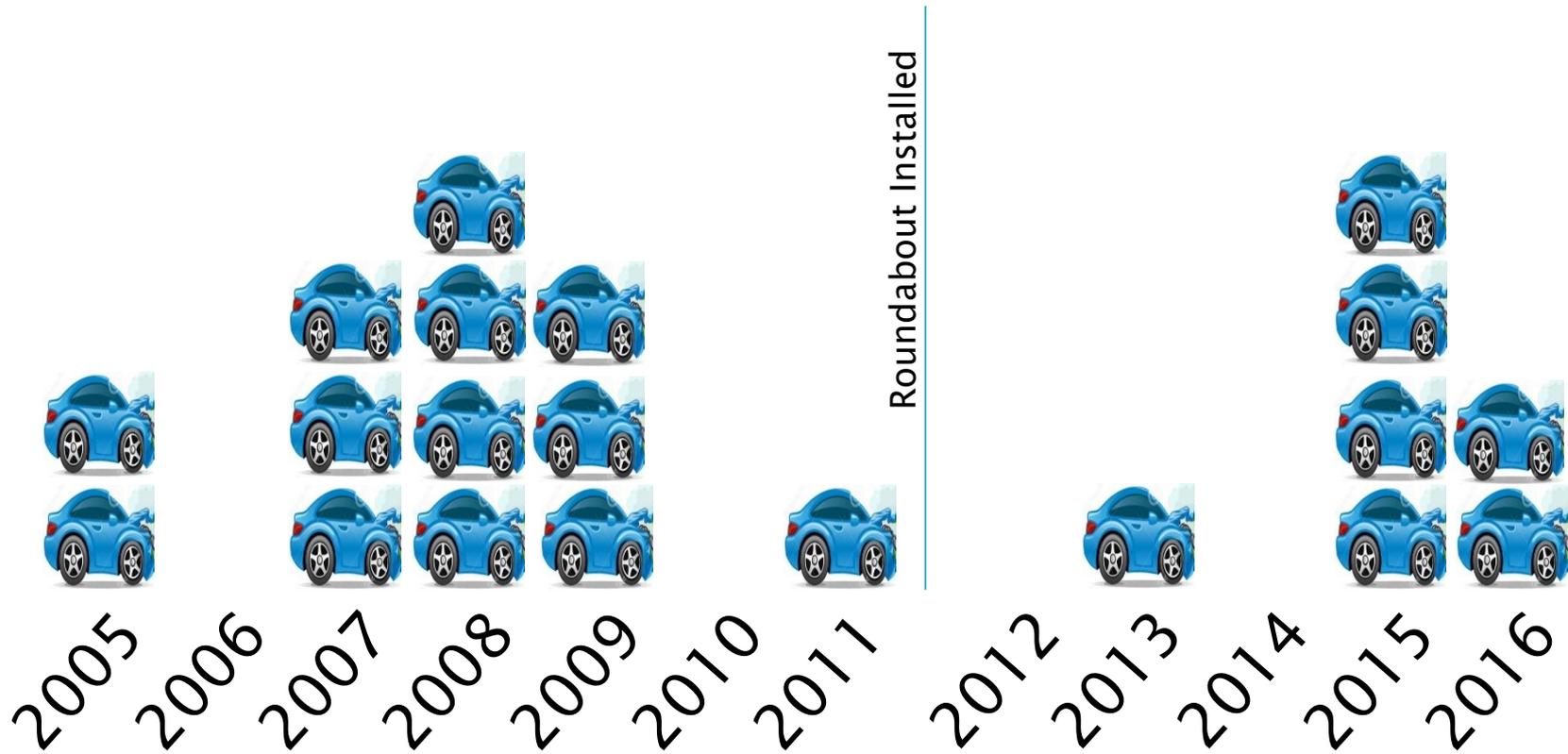
2009 Edition

Including Revision 1 dated May 2012
and Revision 2 dated May 2012

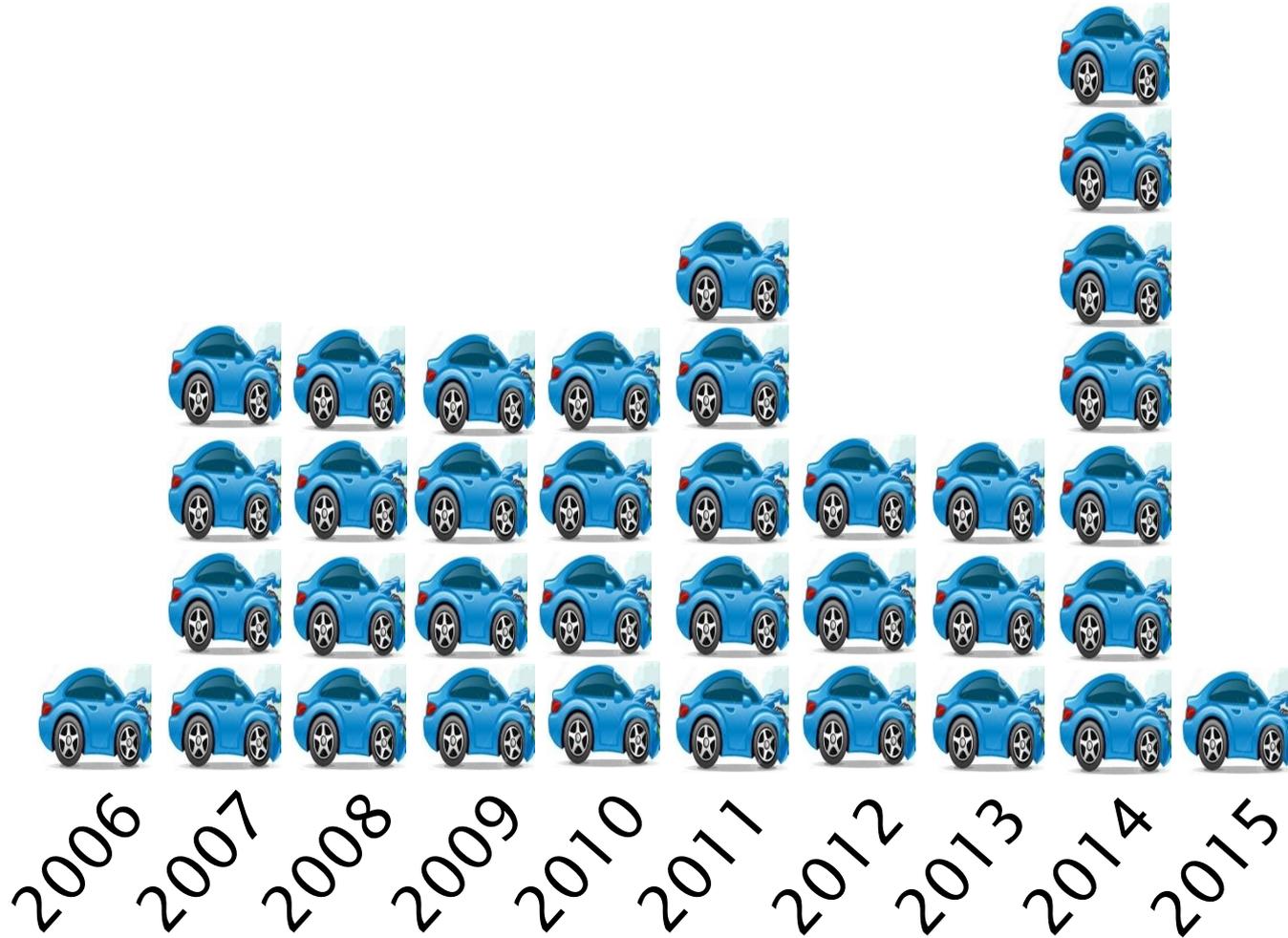


U.S. Department of Transportation
Federal Highway Administration

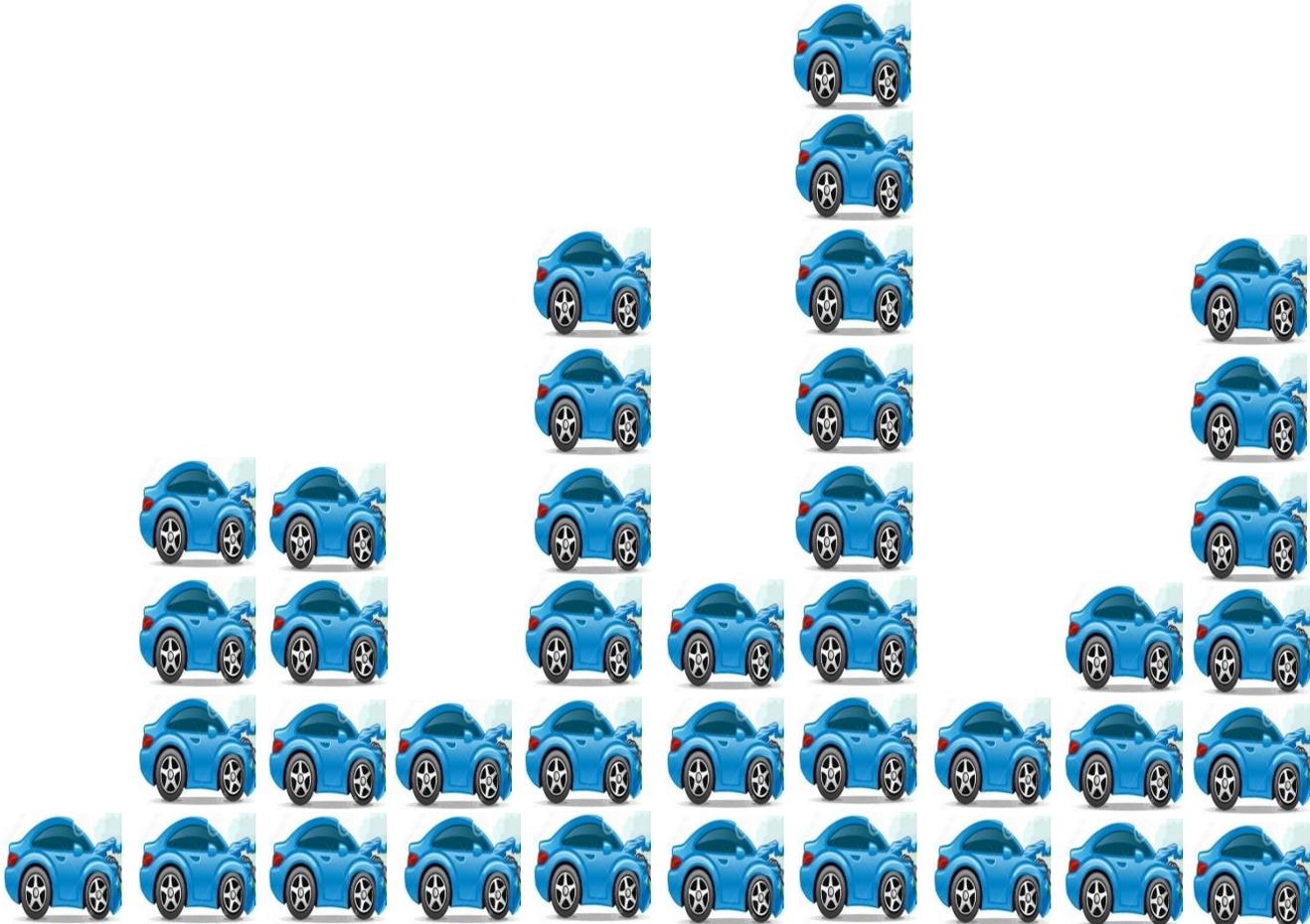
Ogden/Woodgate Collision Data



Sunnyside/Hillcrest Collision Data



Miami/Hillcrest Collision Data

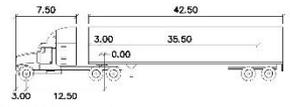
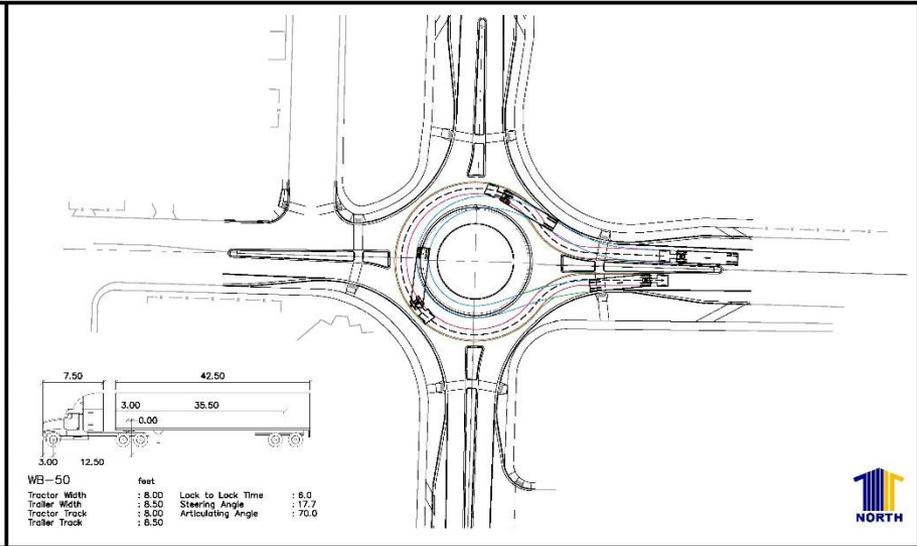


2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

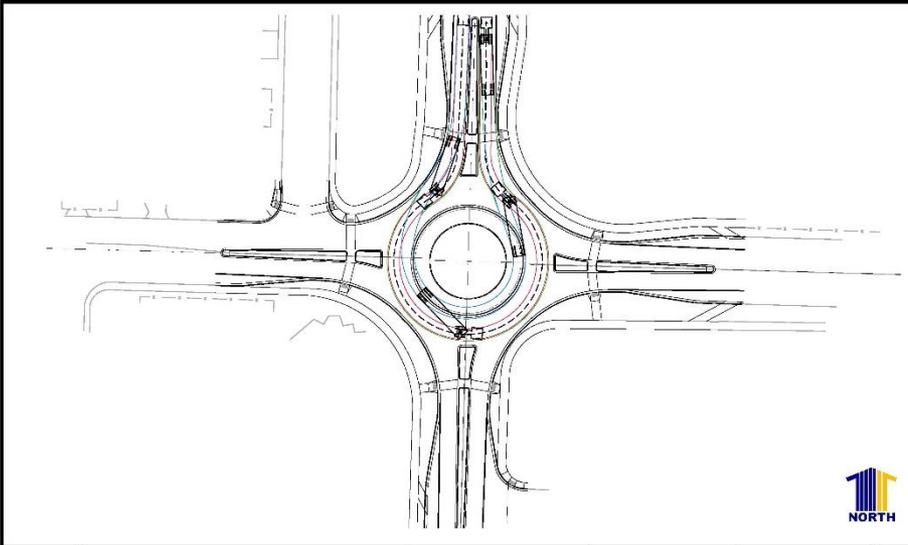




PROJECT: HILLCREST ROUNDABOUT, 3000 SOUTH HILLCREST, MONTROSE, TEXAS 79701
 FILE: HILLCREST_ROUNDABOUT_EXHIBIT_WB-50_TEMPLATES.dwg
 PLOT: HILLCREST_ROUNDABOUT_EXHIBIT_WB-50_TEMPLATES.dwg
 ADDRESS: 10704 US-29, SUITE 100, DALLAS, TEXAS 75243



WB-50	feet		
Tractor Width	: 7.50	Lock to Lock Time	: 6.0
Trailer Width	: 42.50	Steering Angle	: 17.7
Tractor Track	: 3.00	Articulating Angle	: 70.0
Trailer Track	: 35.50		



LEGEND

	FRONT TIRES
	REAR TIRES
	VEHICLE BODY
	PATH

DATE	REVISION DESCRIPTION

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Drawing Name X-Turning Templates.dwg			
Job Number MONTROSE HILLCREST			
Prepared For	Designer	Checker	Checked
CITY OF MONTROSE	KH	KH	TAJ



"Calibre

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 Construction Management Civil Engineering Surveying

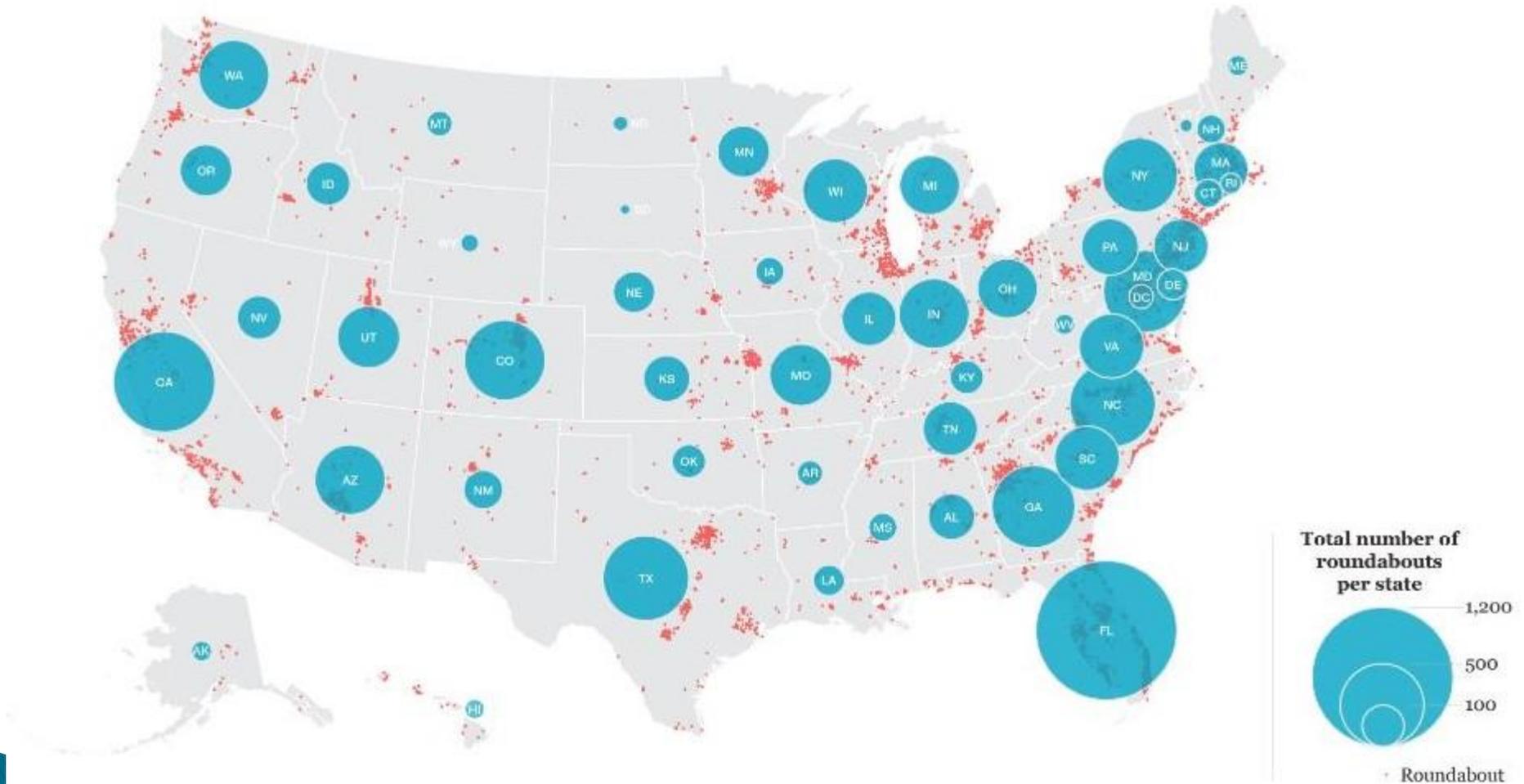
HILLCREST ROUNDABOUT
EXHIBIT
WB-50 TURNING TEMPLATES

Sheet	8
W2	of
	9
Date	FEBRUARY 24, 2016



America's roundabouts

America's 10,341 roundabouts are spread far and wide. However, some states have embraced roundabouts more passionately than others. Florida is where you'll find the most roundabouts (1,283), with California (683) and Texas (487) rounding out the top three. South Dakota, North Dakota, and Wyoming share only 49 roundabouts total.



Where you're most likely to encounter a roundabout

Florida has the most roundabouts, but it's Maryland that has the highest concentration of roundabouts. There drivers are likely to pass through a roundabout once every 363 intersections. By contrast, South Dakota drivers will pass through on average 22,806 intersections before they ever reach a roundabout.

