

Guidelines for Virtual Meetings

01

Plan to log in a few minutes early to avoid any technology issues..

02

Mute yourself if you aren't speaking, but don't put on hold, to avoid background noise.

03

Please take yourself off video during the presentation. You may turn video back on during question-and-answer time.

04

Use the chat box to send comments to the moderator during portions of the presentation to be sure that your thought is captured.

05

During question and answer the moderator will field questions to the presenters.

Road Safety Audit in Action: Natural Bridge Safety Initiative



Today's Speakers

- Eddie Watkins,
Senior Traffic
Studies
Specialist,
MoDOT - SL



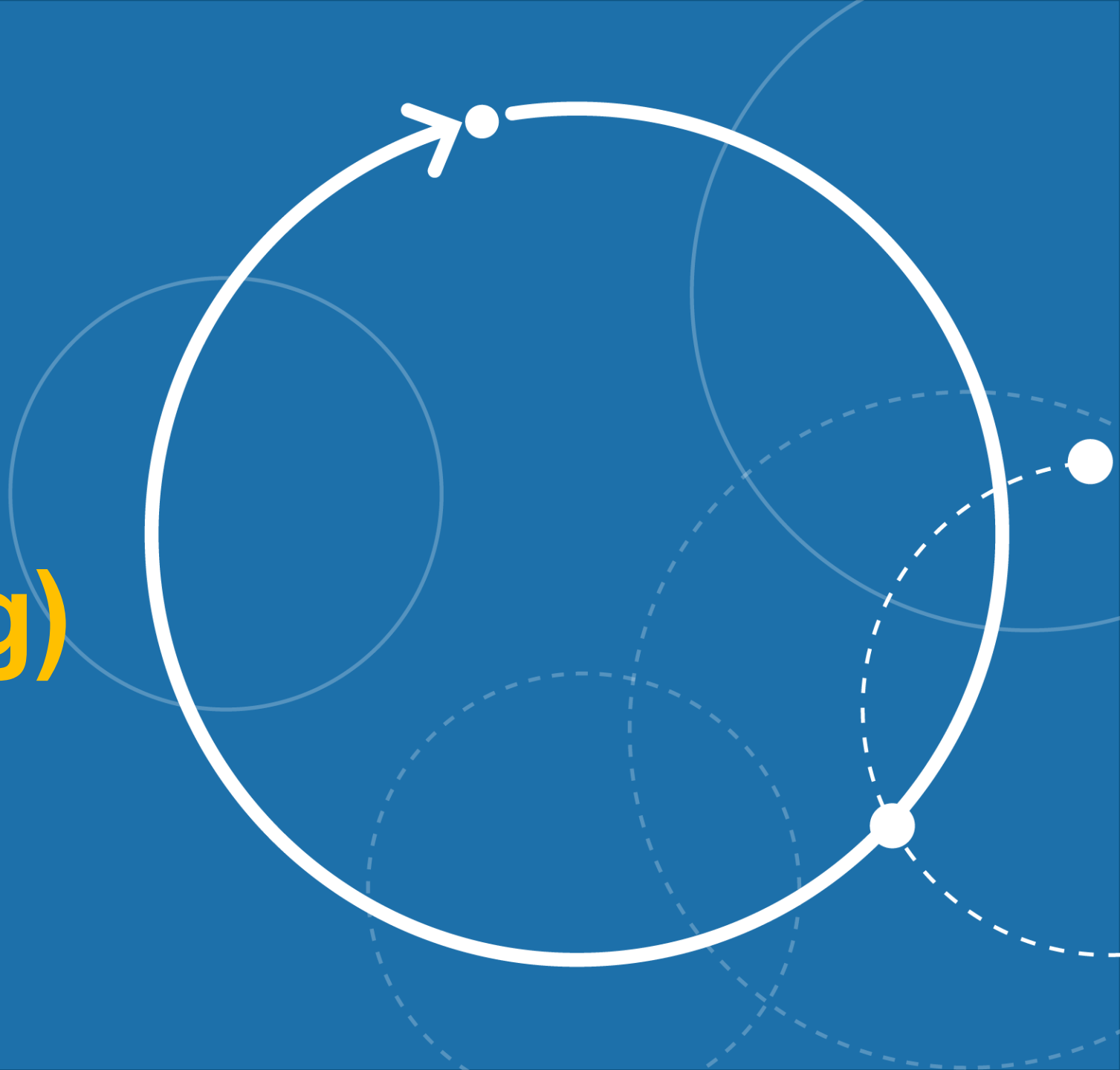
- Shirlyn Myles,
Community
Liaison,
MoDOT-SL



Today's Agenda

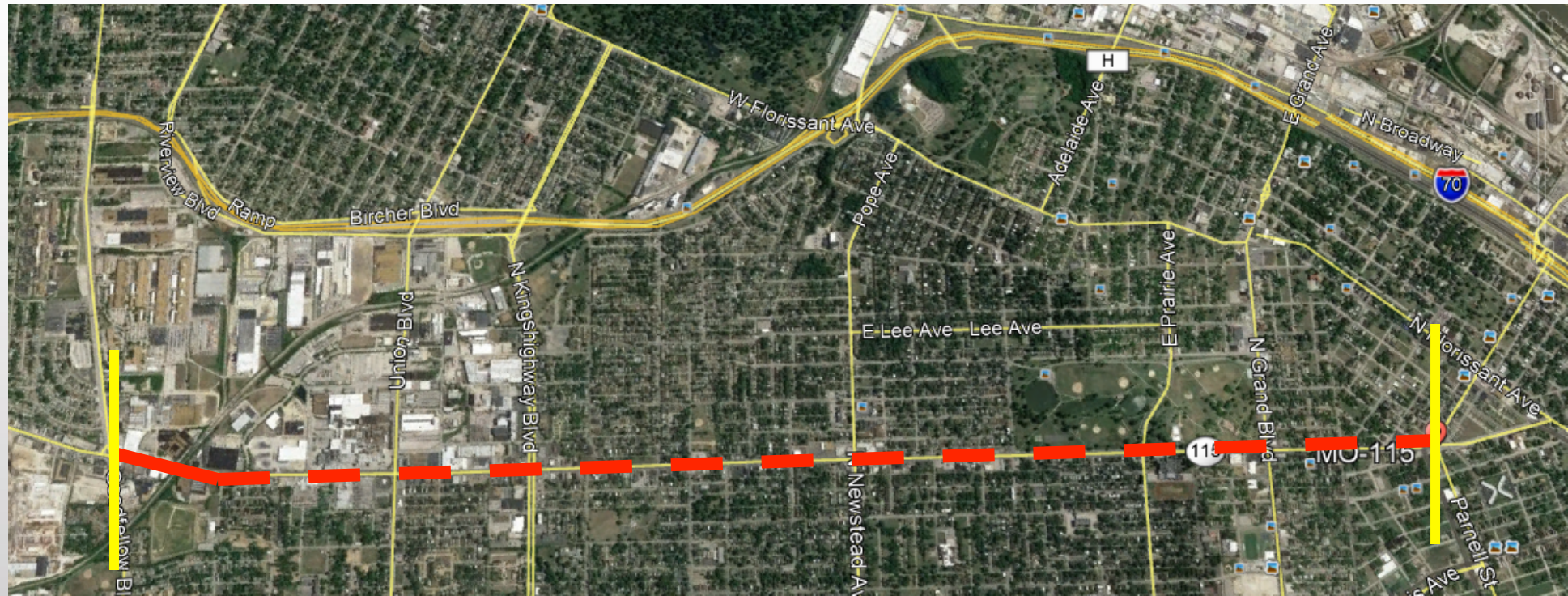
- Welcome
- RSA – Part One – Technical (Engineering)
- RSA – Part Two – Community Outreach Engagement
- Discussion

Part 1: Technical (Engineering)



Corridor Preview

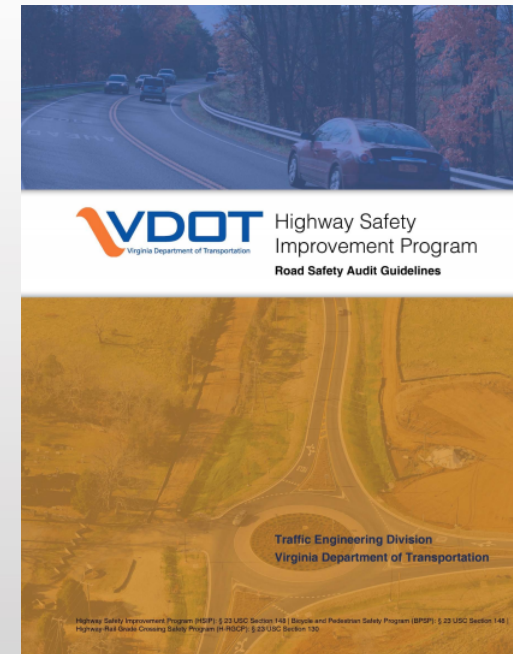
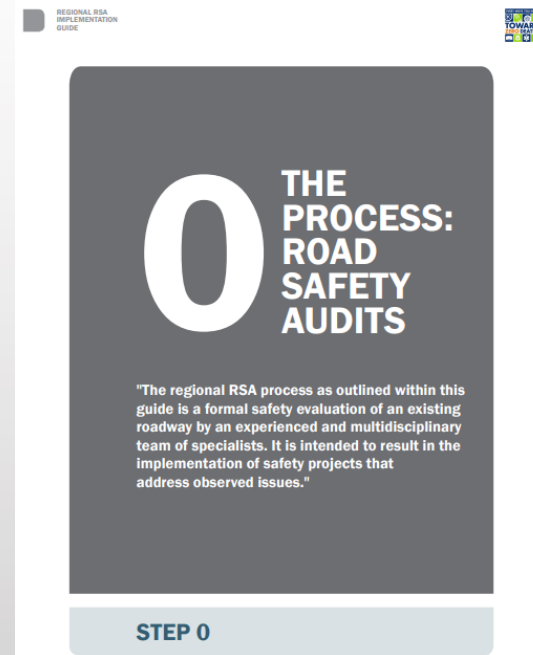
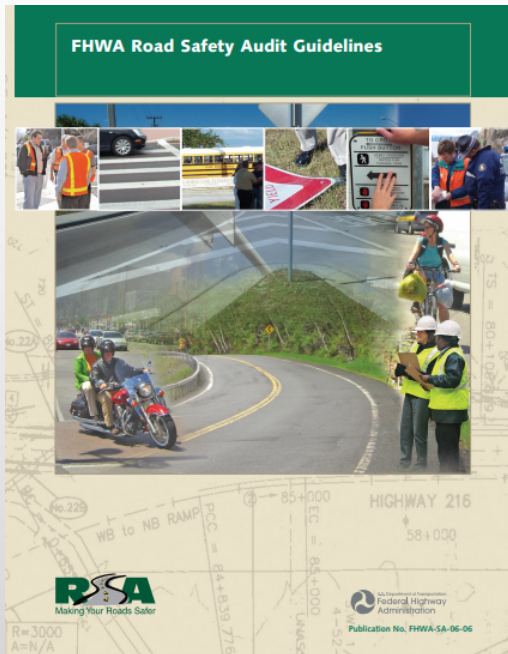
- MoDOT has limited jurisdiction
- 5-lane roadway with on-street parking
- Mix of commercial and residential
- 19 signalized intersections
- Speed = 35
- ADT = 16,400
- ROW = 78'
- 4.2 miles



Pre-Road Safety Audit

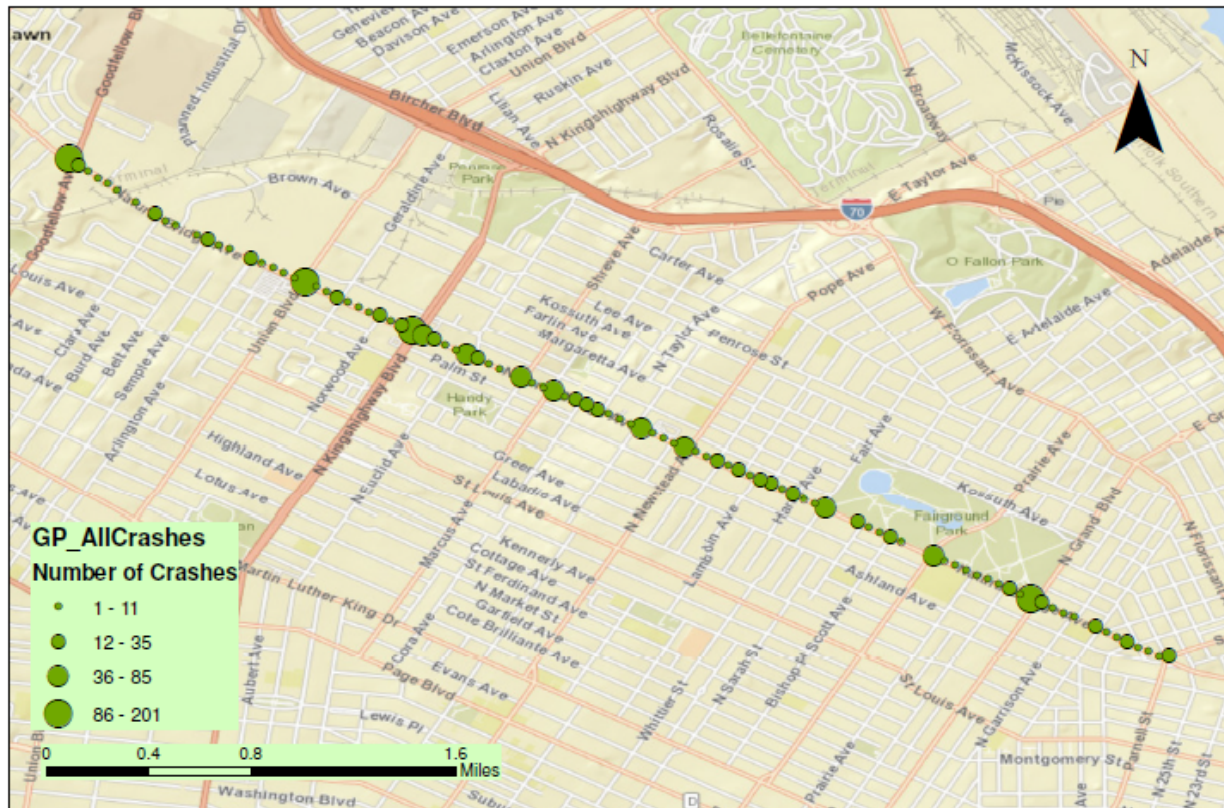
- Asset management plan recommended microsurfacing
- Prioritized for funding via STIP
- Initiated scoping with gathering information
- Realized this project was more than resurfacing

Road Safety Audit – Process overview





Goodfellow to Parnell (All Crashes 2012-2017)



Goodfellow to Parnell (Fatal Crashes 2012-2017)





➤ Core Disciplines

- » Coordination - Area Engineer (**Michelle Forneris**)
- » Operations - Traffic Engineer (**Eddie Watkins**)
- » Design – area team project manager (**Jeff Bohler**)
- » Safety – District safety engineer (**Teresa Krenning**) & FHWA safety engineer (**John P. Miller**)

➤ Supplementary Disciplines

- » Maintenance
- » Law Enforcement
- » Emergency Response
- » Local Experts (residents & business owners)
- » Other specialists
 - Trailnet
 - Metro Transit
 - FTA (?)
 - Local government (**Jamie Wilson** – transportation engineer / complete streets specialist)
 - East-West Gateway (**Anna Musial**)
 - Transportation planning (**Wesley Stephen**)



» Start-Up Work

- » Conducted crash analysis
- » Conducted speed study
- » Identified traveler destinations and special events
- » Consulted with transit, bike, pedestrian plans and organizations

» Total Crash Statistics

- » 35% turning/angle crashes
- » 26% rear end
- » 10% pedestrian involved
- » 75% dry / 25% wet pavement
- » 63 % occurred in daylight
- » Inattention and aggressive behaviors
- » Corridor 3 times higher than statewide average



» Pedestrian Crash Statistics

- » City of St. Louis – FHWA focus city since 2011
- » 70 pedestrians struck in 5 years
- » 10 Fatalities
- » 61% of strikes not in a designated crosswalk
- » 30% between the age of 50 and 59
- » 57% were male



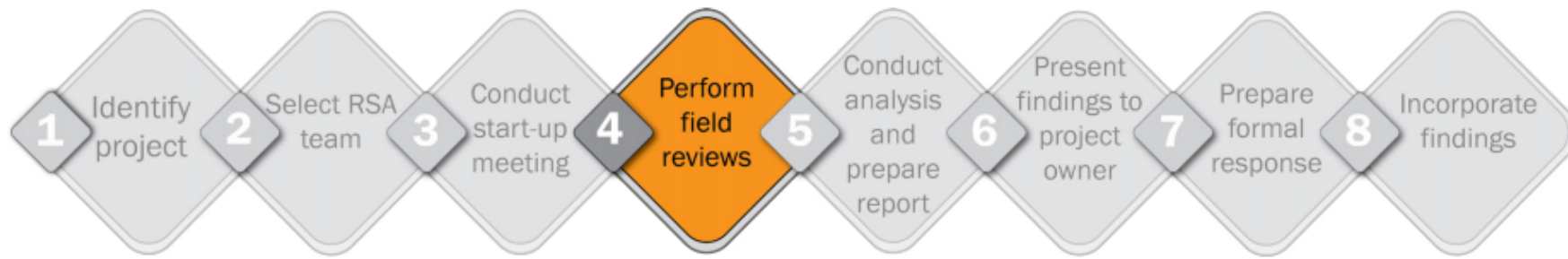
➤ Posted



• Majority



- 5 data segments
- 85th Percentile segment range: 43-52 mph
- 12 AM to 6AM range: 60 – 75 mph
- 100+ mph speeds were recorded





EXAMPLE:

SAFETY ISSUE #1:

Lack of Pedestrian Accommodations

OBSERVATION:

Lack of pedestrian accommodations presents a serious safety concern along the corridor. Two pedestrians were struck and killed while walking along the roadway...

RISK RATING MATRIX:

Frequency:	Severity:			
	Negligible:	Low:	Medium:	High:
Frequent:	C	D	E	F
Occasional:	B	C	D	E
Rare:	A	B	C	D

RECOMMENDATIONS:

Short:	HOLD for short term recommendation
Medium:	HOLD for medium term recommendation
Long:	HOLD for long term recommendation



GEOMETRY:

Issue:	Risk Rating:

OPERATIONS:

Issue:	Risk Rating:

ROADWAY USERS/HUMAN FACTORS:

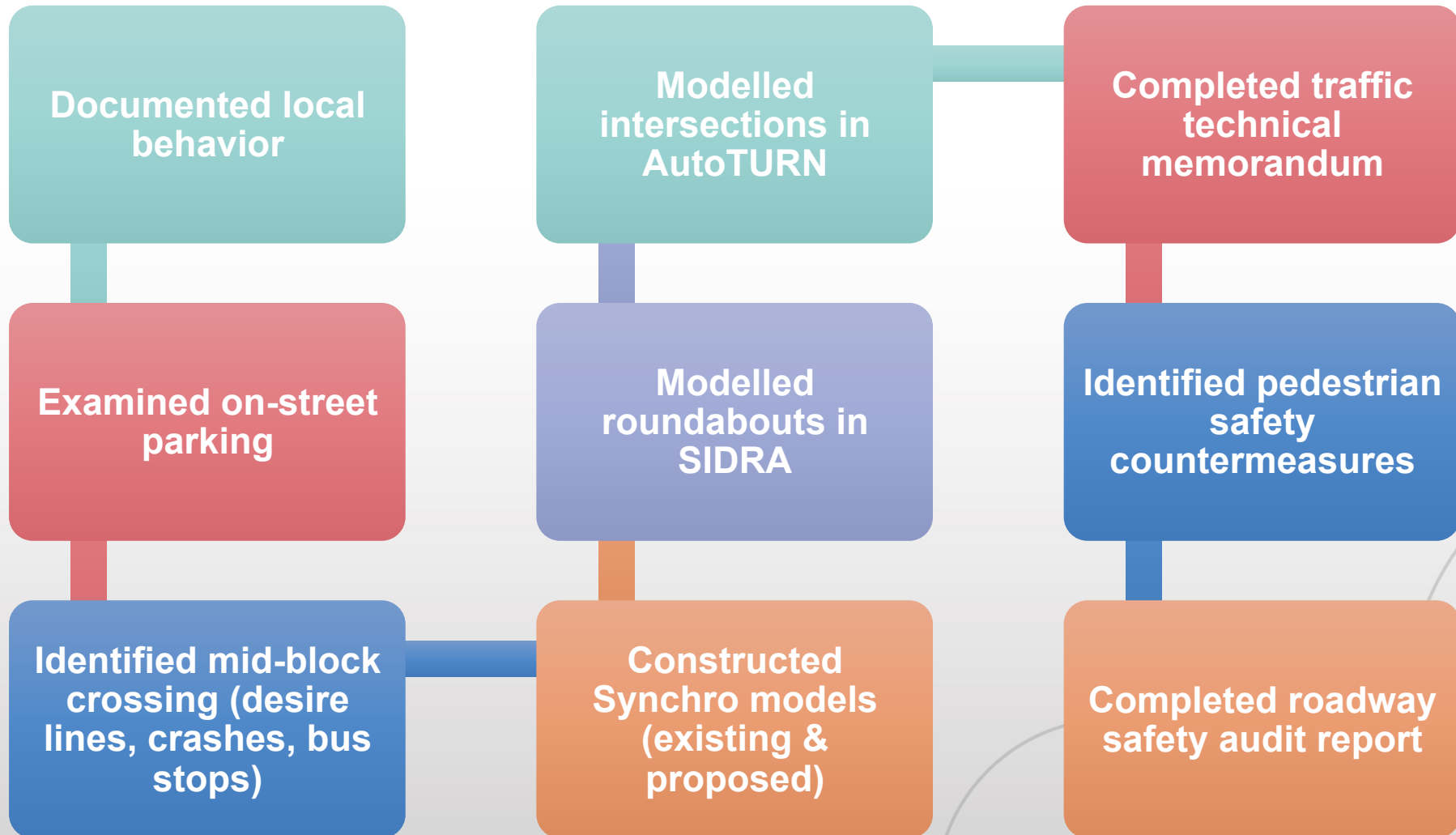
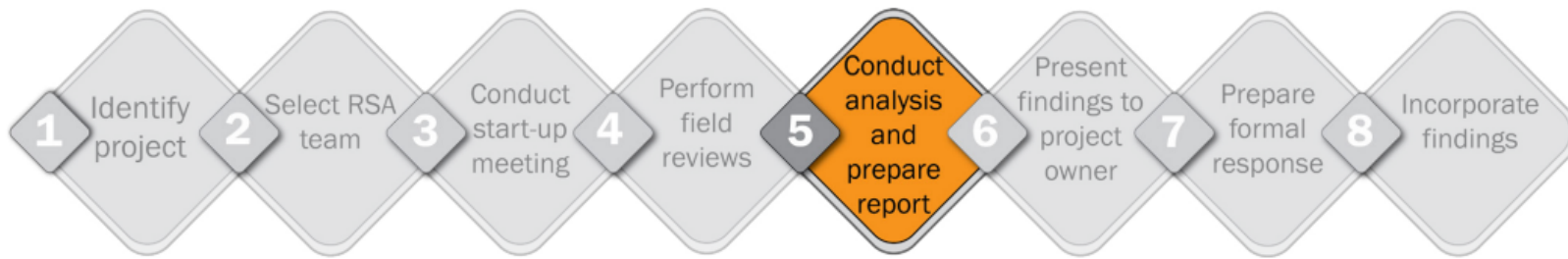
Issue:	Risk Rating:

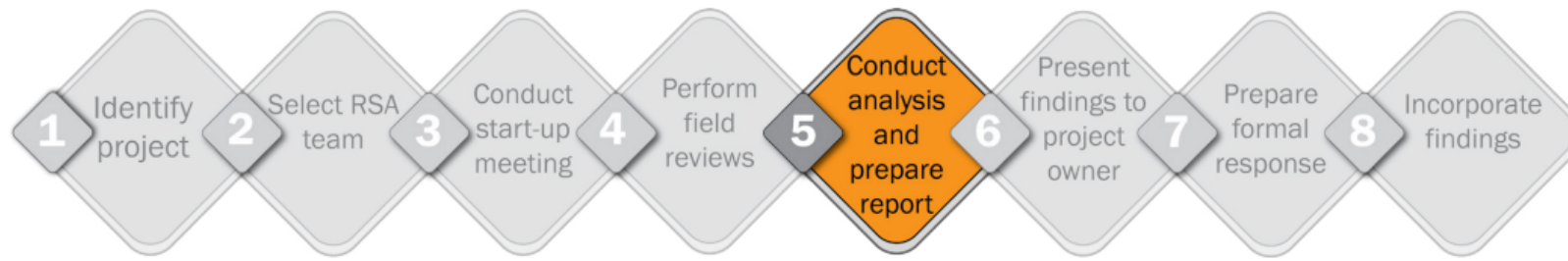
ENVIRONMENT:

Issue:	Risk Rating:

RISK RATING MATRIX:

Frequency:	Severity:			
	Negligible:	Low:	Medium:	High:
Frequent:	C	D	E	F
Occasional:	B	C	D	E
Rare:	A	B	C	D





➤ Aggressive motorist behavior

- » High rates of speeds
- » Vehicles passing in parking lane
- » Vehicles passing in opposing traffic lanes
- » Vehicles passing in two-way turn lane
- » Red light running – aggressive motorist behavior

➤ Risky pedestrian behavior

- » Crossing during on-coming motorist traffic

➤ Road Conditions

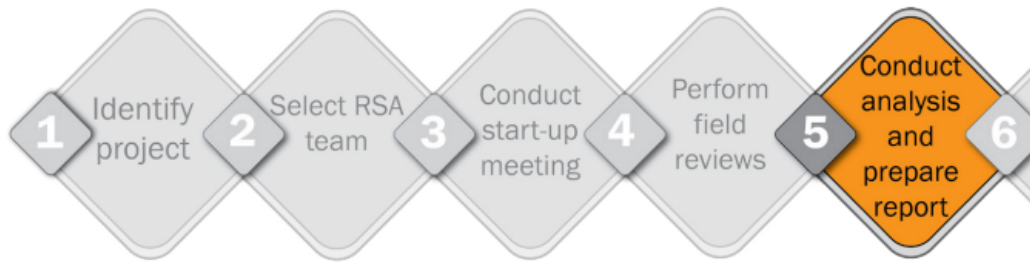
- » Faded striping
- » Signal malfunctions
- » Lack of ADA compliant sidewalks and ramps
- » Lack of crossings between signals

Analyze Safety Issues > Identify Countermeasures

Issue	Aggressive Motorist Behavior	Risky Pedestrian Behavior	Road Conditions
High rate of speed	Narrowed lanes to 10 feet, added roundabouts	Shorter crossing distance	N/A
Vehicles passing in parking lane	Added curb extensions	Shorter crossing distance	N/A
Vehicles passing in opposing traffic lanes	Added median	Pedestrian refuge island	N/A
Vehicles passing in TWTL	Added median	Added refuge island	N/A
Pedestrians crossing during on-coming traffic	Added medians, reduced lanes, added curb ext.	Added RRFB mid-block /w lighting	N/A
Faded striping	N/A	N/A	Added high visibility crosswalks
Signal malfunctioning	N/A	N/A	Upgraded last 16
Ped. Signal timing	N/A	Leading Ped. Interval	Upgraded, add ADA
ADA	N/A	N/A	Added truncated domes at crossings

Crash Modification Factors

Countermeasure	Benefit	Crash Modification Factor (fewer probable incidents)
Crosswalk lighting	Enhances visibility of crossing	42% - 59%
Narrowed lanes	Shorter crossing distance, slows down vehicle speed	19% - 47%
Crosswalk visibility enhancements	Features which draw attention to the crosswalk: lighting, high visibility crosswalk markings, restricting parking, curb extension, signage	23% - 48%
RRFBs	Inserts defined locations for safe pedestrian crossing	47%
Roundabouts	Shorter crossing distance, slows down vehicles from passing, reduces conflict pts.	35%
Pedestrian refuge island (medians)	Pedestrian refuge, prevents vehicles from passing	32%
Leading pedestrian interval	Improve visibility of pedestrians in crosswalk before vehicles enter int.	13%



Safe Transportation for Every Pedestrian | **STEP**

STEP Countermeasures Improve Pedestrian Safety
The Countermeasures Below Show the Potential Reduction in Pedestrian Crashes

13%
LEADING PEDESTRIAN
INTERVALS



32%
PEDESTRIAN
REFUGE ISLAND



45%
RAISED
CROSSWALK



47%
RECTANGULAR RAPID
FLASHING BEACON



55%
PEDESTRIAN
HYBRID BEACON



Source: https://safety.fhwa.dot.gov/ped_bike/step/

Cost Comparisons

Countermeasure	CMF	Typical Cost Ranges	Rte. 115 Costs (\$2.6 million safety focused costs)
Crosswalk lighting	42% - 59%	\$5,000 each	Included in midblock crossings
Narrowed lanes	19% - 47%	\$1.50 per line per linear foot	26% savings
Crosswalk visibility enhancements	23% - 48%	Broken out	Broken out
Curb extensions	Part of crosswalk vis.	\$13,000 each	88% savings
High vis. Crosswalk marking	Part of crosswalk vis.	\$200 per 30" block	10% savings
RRFBs	47%	\$8,500 - \$15,000 each	22% savings
Roundabouts	35%	\$500,000 - \$1.5 million each	30% savings from midpoint (\$1 million)
Pedestrian refuge island (medians)	32%	\$7,000 each	15% savings
Leading pedestrian interval	13%	\$3,500 (upper end)	7% savings

Pictures



Pictures



Schedule and Key Milestones



Part 2: Community Outreach & Engagement (Community Liaison)



COMMUNITY OUTREACH & ENGAGEMENT

Natural Bridge Safety Initiative

Roadway resurfacing project:

- A project of this magnitude
- Unprecedented approach in public involvement
- Before preliminary plans were completed

Community Outreach & Engagement



Schedule and Key Milestones



COMMUNITY OUTREACH & ENGAGEMENT

Community Liaison

Address MoDOT's negative perception - community:

- Distrust
- Gentrification
- MoDOT's intent?
- Impact on the community

COMMUNITY OUTREACH & ENGAGEMENT

Area Engineer & Community Liaison

Meeting with Elected Officials:

- Aldermen
- State Representative

COMMUNITY OUTREACH & ENGAGEMENT

Road Safety Audit Results:

- Speeding
- Running Lights
- Jaywalking



Strategic Marketing Plan

Outline:

- Researching the issues/behavior/patterns
- Objective
- Community feedback/engagement
- Data Collection
- Evaluation and Assessment



Community Based:

- Local Community
- Elected Officials
- Law Enforcement
- Transportation Partners

Behavior Modification

Issues:

- Speeding
- Jaywalking
- Running Lights

Objectives are to:

1. Decrease accidents and fatalities
2. Encourage drivers to adhere to the speed limit
3. Change pedestrian behavior (using crosswalks)



Communication Strategy

Outline:

- Target Market
- Demographics
- Messaging
- Mediums
- Schedule



Community Engagement Initiative:

- Three-prong approach: focus groups, engagement, and education
- Involving affected victims and families
- People with a direct connection to Natural Bridge
 - ❑ Employees, business owners, homeowners, students, residents, etc.

Communication Strategy


Media/Messaging:

- ▶ Articles/Feature Stories
- ▶ News Coverage
- ▶ News Releases
- ▶ Posters
- ▶ Print and Radio Advertising
- ▶ Public Service Announcements (PSA)



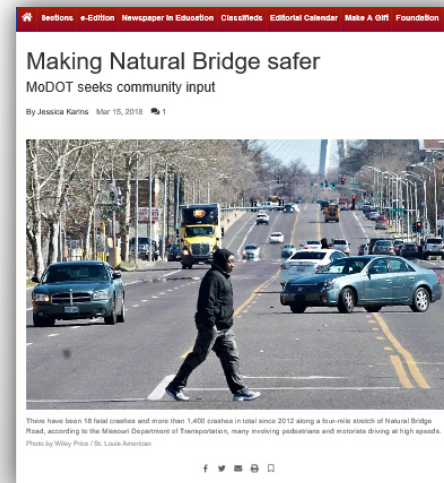
Natural Bridge Safety Initiative
MoDOT Open House
Public Meeting

People who use Natural Bridge in the city of St. Louis are invited to attend MoDOT's open house public meeting to talk about the new proposed upgrades and design changes on Natural Bridge.



The community is invited to participate in the discussion and get a better understanding of how this may impact their daily commute.

The meeting is scheduled for:
January 22, 2020
3:30 to 6:30 p.m.
The Best Place
5796 Dr. MLK Drive
St. Louis, MO 63112



Public Service Announcements (PSA)



- Emotion - Humanizing those impacted
- Education - Fatalities, speeding, cause and effect
- Safety:
 - ☐ School Zones
 - ☐ Pedestrians
 - ☐ Seniors
- Informationals – Transportation leaders and partners
 - ☐ MoDOT Area Engineer
 - ☐ Elected Officials

Immediate Impact



Measured Results

Campaign-focused metrics - measure the results and impact of the educational efforts.

- Standardized analytical data to measure the impact and engagement:
 - Social media efforts
 - PSAs was measured using the standard radio and television metrics

Measured Results

Production of campaign:

- Print
 - ☐ Posters and print ads

- PSAs

Social Media:

- FB - averaged 200 viewers for each PSA live stream

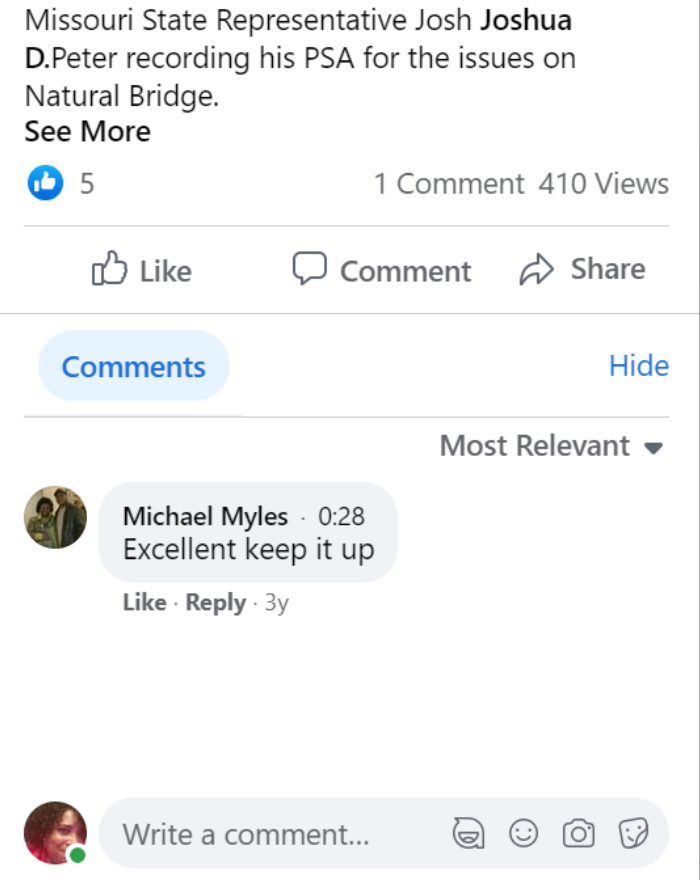


Measured Results

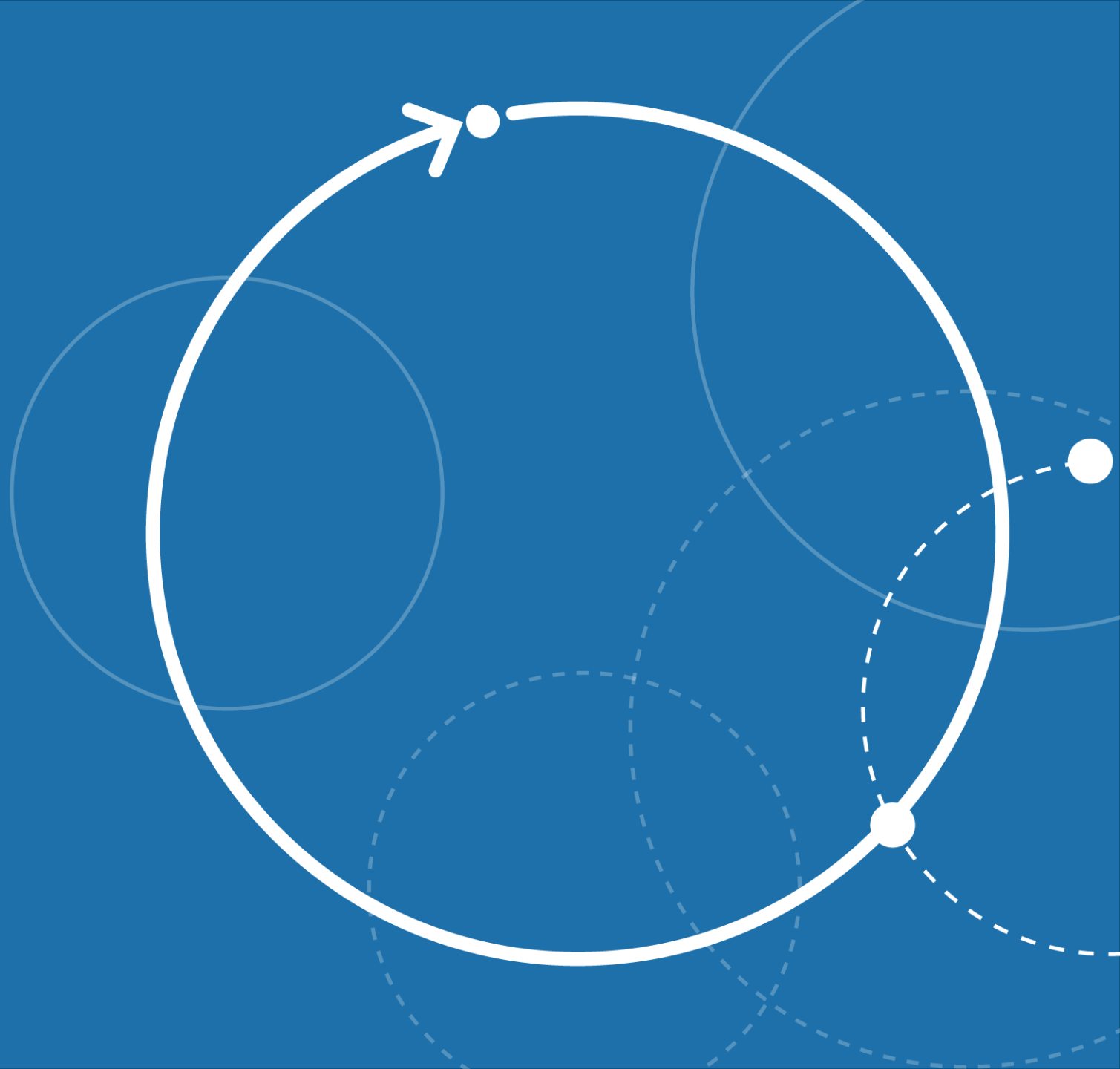
PSA Postings

➤ Facebook:

- ❑ Over 41,000 reached organically
- ❑ 516 reacted
- ❑ 392 liked
- ❑ 204 shared
- ❑ 97 commented



FOCUS GROUP



Focus Groups Planning

Target Market

➤ Recruitment:

- ☐ Local Library and Community Ctrs
- ☐ Advertising (radio, print, etc.)
- ☐ News Release
- ☐ Media Coverage

➤ Accessibility

- ☐ Day/ Evening & weekend options



Criteria/Best Practice Standards

- ☐ Documentation
- ☐ Recording
- ☐ Option of anonymity and confidentiality



Focus Groups Planning

Process:

- Created talking points and FAQs
- Survey's
- Question sheets with contact info
- Used visual aids and layman's terms to explain transportation
- Elected officials and law enforcement present to answer questions directed towards them

Presentation:

- Examples and demonstration



Focus Group Facilitation

Introduction

- Facilitator laid ground rules
- Attendees introduce and explain their connections to Natural bridge:
 - Gauge audience
 - Tailored presentation - current audience

Interaction

- Interaction time allocated at the end of the focus group



Focus Groups

Public Opinion

Takeaways

- Requested more law enforcement
- People lacked knowledge of pedestrian signal usage
- Why they jaywalked

Context



Jaywalking:

- Bus stop location/catching the bus
- Corner too far away
- Destination directly across street
- Jaywalking is considered part of black male independence and control of one's destiny



Speeding:

- Racetrack
- All green lights

Running Lights:

- Enough time
- In a hurry

Focus Groups – Community Stakeholders

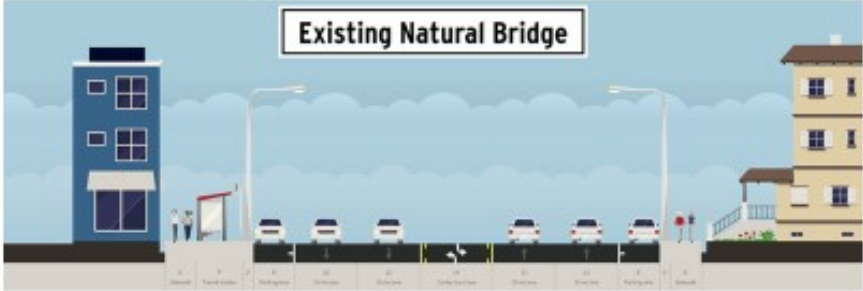
Participants:

- All focus groups participants
- Business owners
- Local government and transportation partners
- Other stakeholders (Great Rivers Greenway ... others)




Focus Groups – Community Stakeholders


Revised preliminary plans and specs for proposed solutions by focus groups



Existing Natural Bridge



Natural Bridge



Natural Bridge Option

Which option best fits your vision?

Option 1

Option 2

Focus Groups – Community Stakeholders

Proposed solutions

- Used visual aids to show examples of each proposed design
- Explained details of each proposed design

Voting

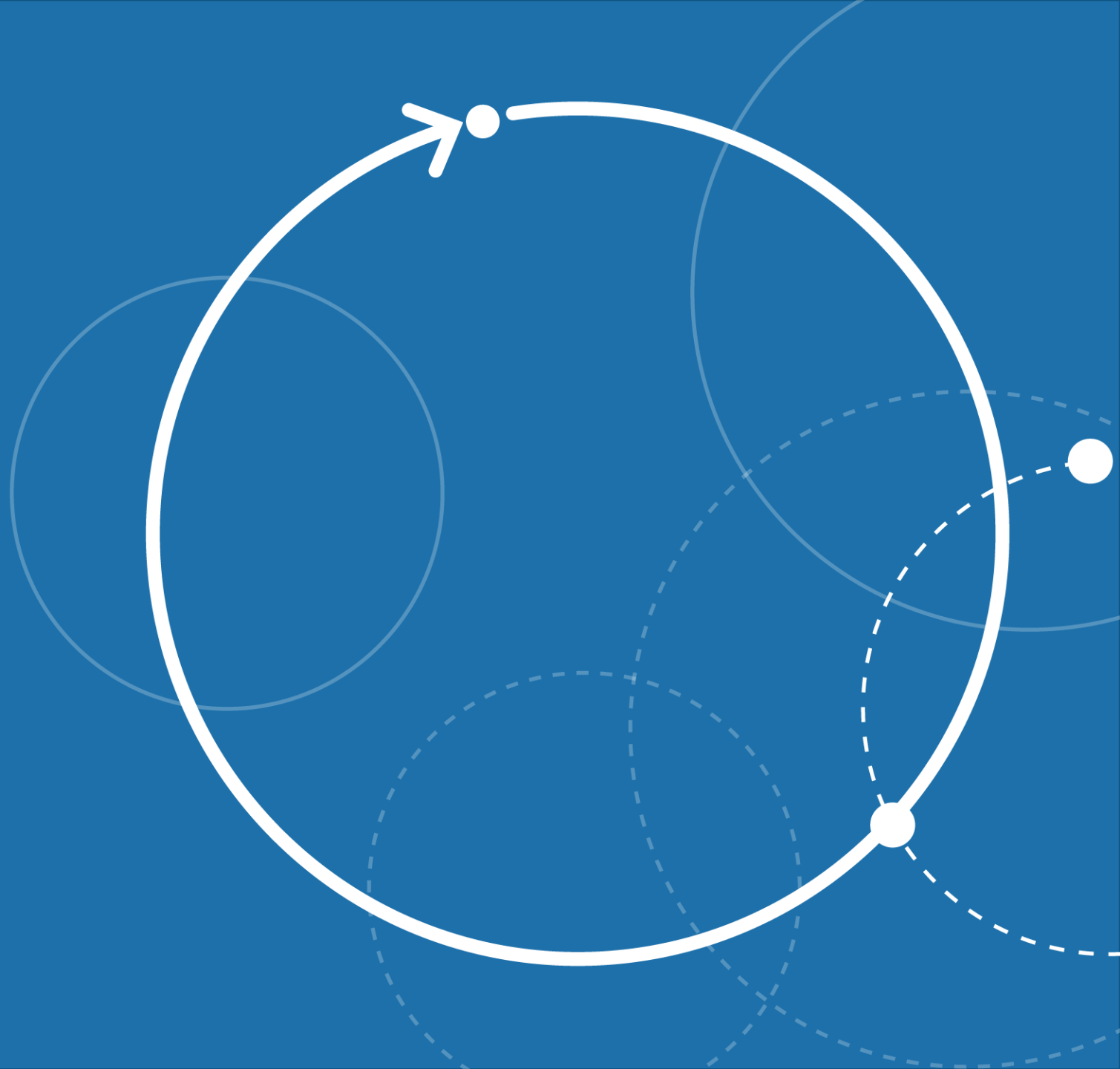
- First a uniformed vote
- Next an informed vote



What are the most immediate safety needs along Natural Bridge? (Pick 5)

A. Sidewalk conditions/ accessibility	0%
B. Running red lights	0%
C. Congestion	0%
D. Lighting	0%
E. Enforcement	0%
F. Jaywalking	0%
G. Bicycle	0%
H. Speeding	0%

PUBLIC MEETING



Public Meeting

Exhibit proposed design

- Showed 2 proposed designs for each section
- Explained details of each proposed design
- Provided display on table for mark-up, and suggestions



Addressed Issues & Answered Questions



Travel Safe Zone and Outreach

- Travel safe zone was installed in 2018
- 0 fatalities and 1 serious injury
- Public outreach and heavy law enforcement presence



Community: issues/concerns & Resolutions

Goodwill

- Altered design for funeral homes
- Reserved option in the future for roundabouts

Controversy:

- Protestors called all businesses to try to stop project

Question and Answer

