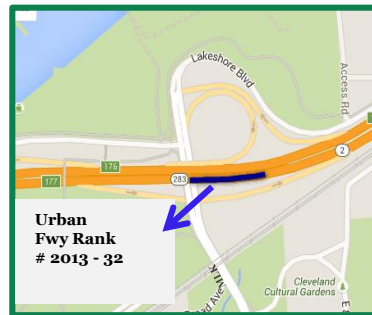
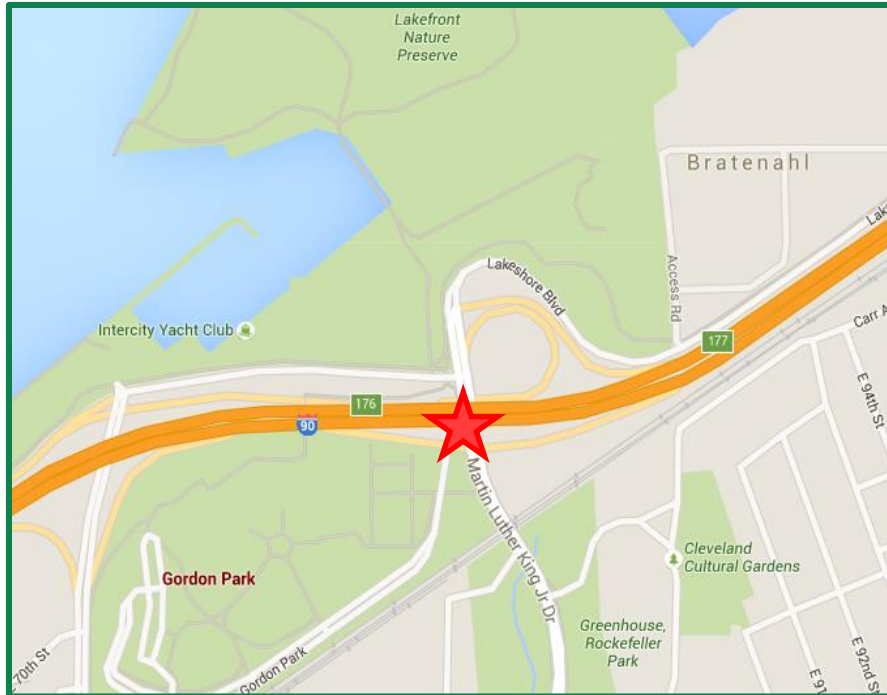




OHIO DEPARTMENT OF TRANSPORTATION

JOHN R. KASICH, OHIO GOVERNOR

JERRY WRAY, ODOT DIRECTOR



CUY-90-21.02

Safety Funding Application ODOT District 12

Introductions

- Brian Blayney, ODOT District 12
- Andy Shahan, LJB
- Veena Madineni, LJB



Purpose and Need

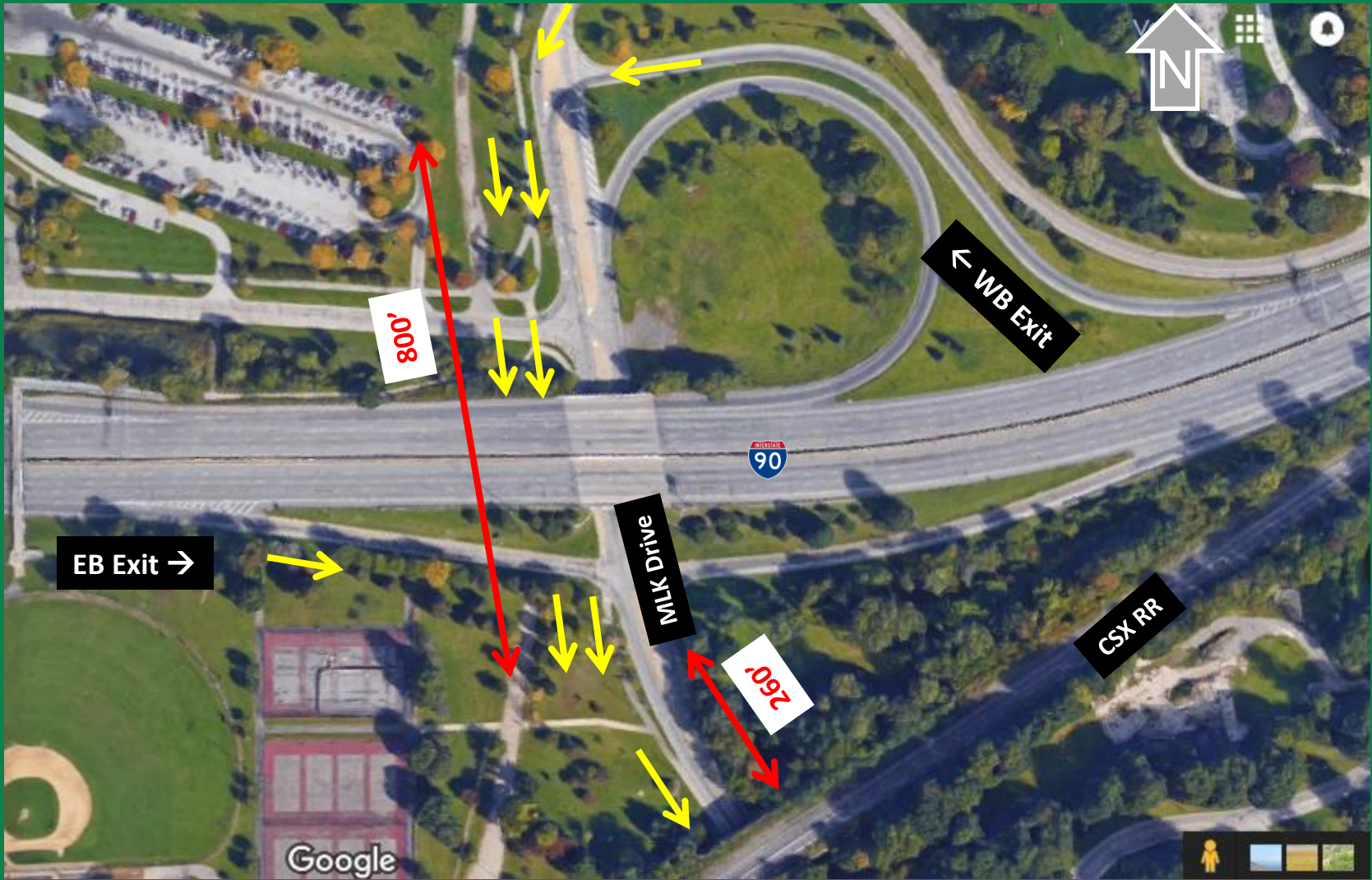
- Increase capacity on MLK Drive
- Mitigate limited sight distance for EB exit ramp traffic at MLK
- Reduce queues on the EB exit ramp to SB MLK Drive that extend onto mainline I-90
- Manage queues on the WB exit ramp to SB MLK Drive.



Area Map



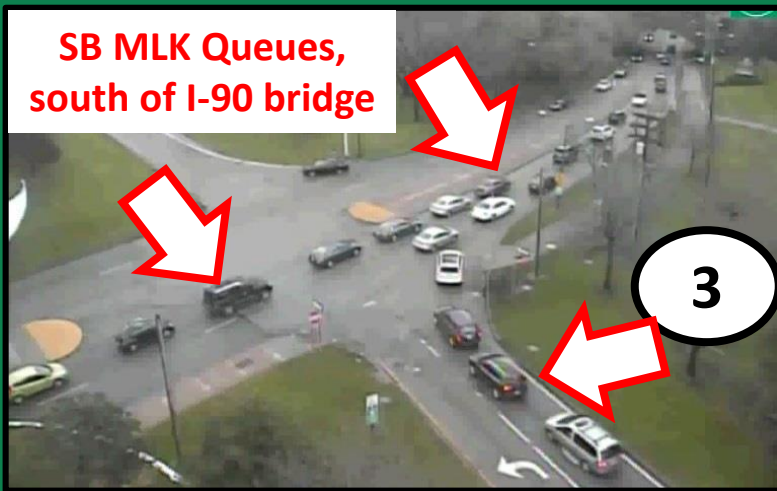
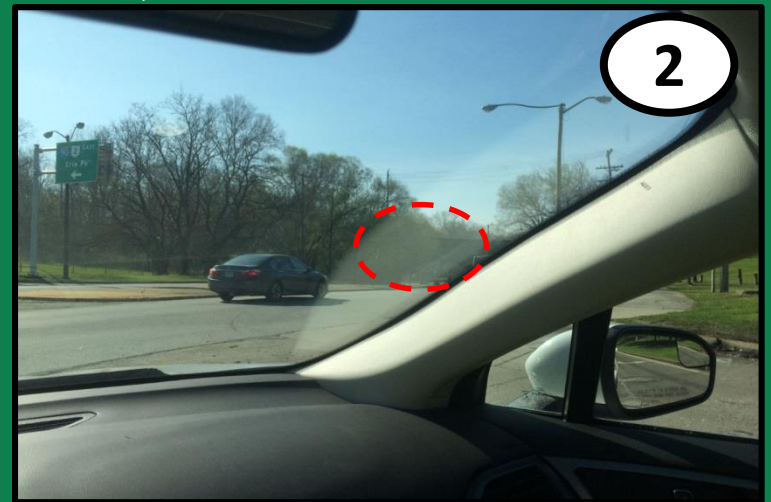
Existing Conditions



MLK Drive – Existing Conditions



Existing Conditions, AM Peak



(1) & (2) Restricted Sight triangle for EB Exit ramp approach at MLK (3) SB MLK Queue at EB ramps (4) At I-90 EB Exit Ramp to MLK



AM Peak Hour Queues



6

Crash Summary

- 76 total crashes (2011-2013)
 - 18 injury accidents
 - 56 rear end crashes (74% vs 31% average)
 - 36 rear end crashes on EB I-90 exit ramp to MLK
 - 51% of crashes occur during AM and PM peaks

LOCATION	TOTAL	REAR END (30.9%)	FIXED OBJECT (14.6%)	SIDESWIPE PASSING (8.7%)	TOD (6-9AM)	TOD (3-6PM)
EB Exit Ramp to MLK/ Ramp diverge on I-90	40	34 (85%)	4 (10%)	1 (2.5%)	30%	30%
WB Exit Ramp to MLK/ Ramp Diverge on I-90	16	10 (62%)	3 (19%)	3 (19%)	63%	0%
MLK Drive	20	12 (60.0%)	2 (10%)	2 (10%)	25%	30%



Countermeasures

1. Extend two southbound through lanes on MLK Drive to East Blvd.
2. Install traffic signals at EB I-90 ramp and WB I-90 ramp terminal intersections with MLK Drive
3. Revise the EB I-90 exit ramp approach to MLK Drive from a L-R to a LR-R configuration
4. Widen the WB I-90 exit ramp for dual left turn lanes to MLK Drive (600').



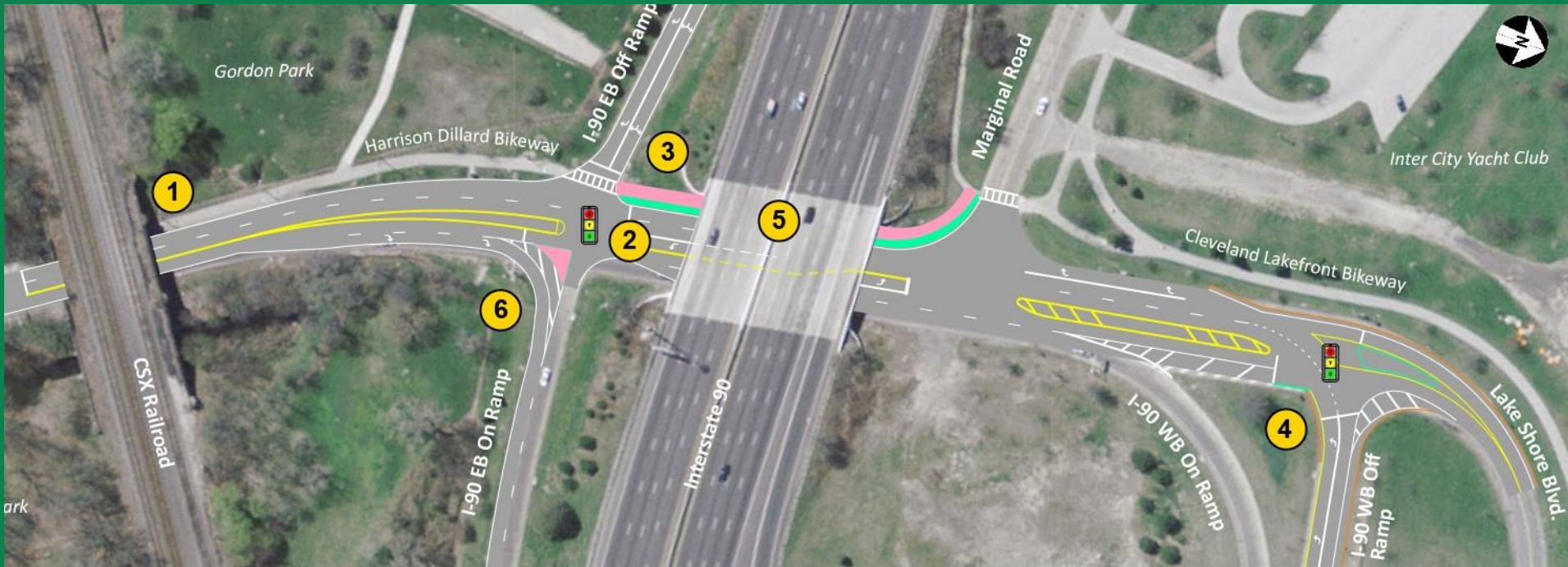
Countermeasures

5. Provide dedicated left turn lanes on MLK Drive at the EB ramps and at the N. Marginal Road intersections
6. Channelize NB right turn at EB I-90 ramps intersection

****No pavement widening needed on MLK**



Proposed Improvements I-90/MLK Drive



Safety Performance Goals

Ohio SHSP Performance Goals

- Emphasis Area V - Congestion related crashes
- Reduces serious injury crashes on I-90 mainline due to high speed differential between mainline and exiting traffic
- Reduce rear-end crashes on the exit ramps and MLK



Program Management

- Resurfacing on MLK in FY2017
- Cleveland Metro Parks/City of Cleveland Trails
 - Widen trail/sidewalk under I-90 bridge. Last piece in City of Cleveland's Lake to Lakes Trail



Funding Summary

- \$111,300 safety study completed
- \$50,000 IOS/IMS
- \$250,000 for Environmental/PE and Detailed design
- No Right of Way
- \$2.25M Construction Cost
 - 35% design risk
 - 8.6% inflation cost
- **\$2.55M Total Safety Funding Request**



Scoring

- Benefit cost ratio = 1.59
- Expected Crash Frequency = 17.2
- Existing volume to capacity ratio = 1.54
- Percent PSI to Total Expected Crashes = 17%
- Annual Crash reduction = 9.2 crashes



Summary

- Safety Project
 - Mitigates safety hot spots (#32 in 2013)
 - Reduces queues on EB I-90 exit ramp and southbound on MLK
- Candidate for Ramp Clear Program

