



I-70 / I-71 Downtown Columbus

Building a Mega-Project on a “Mini-Budget”

Ohio Section ITE/ITS Midwest/WTS Fall Workshop

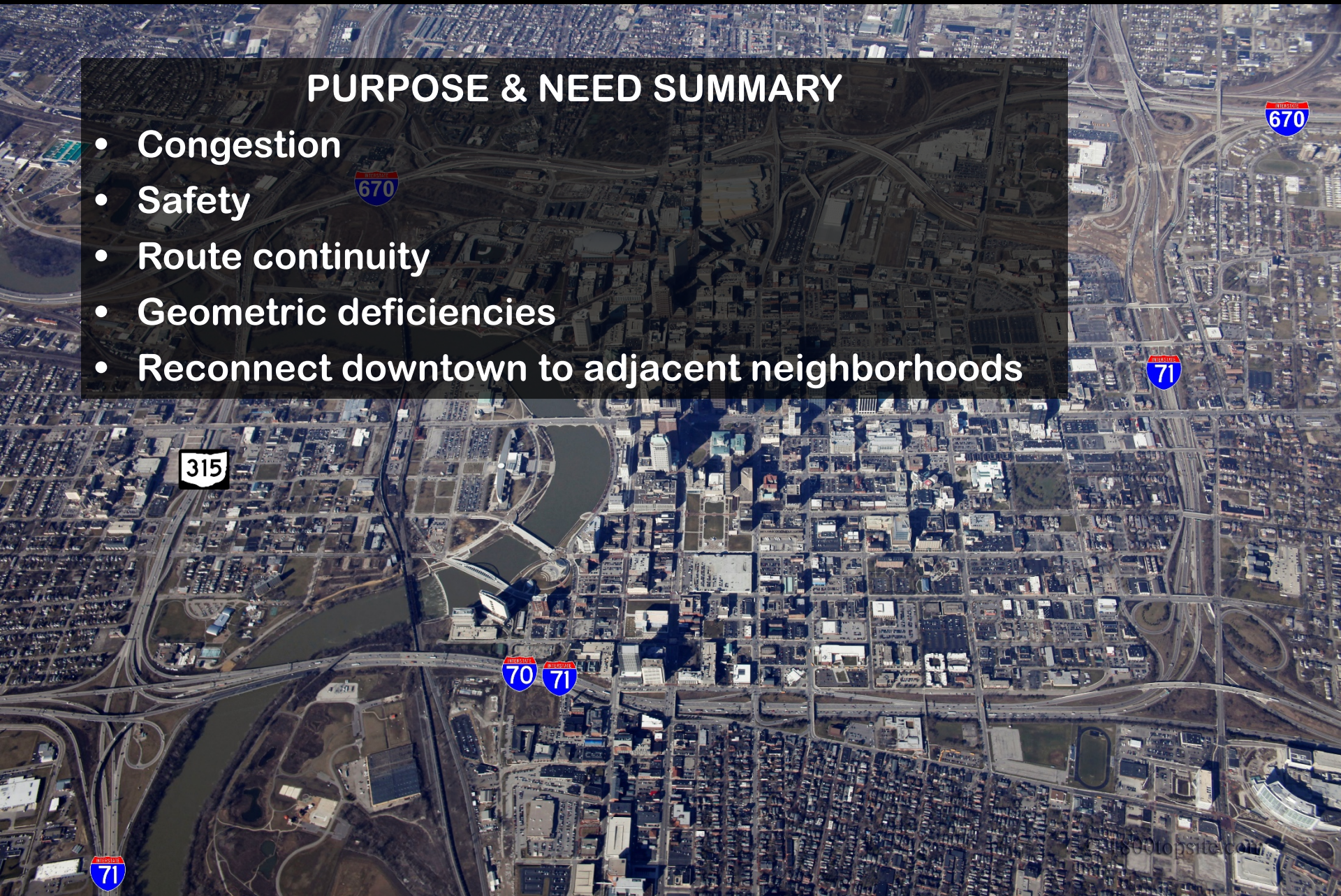
Ryan Bush, PE, AICP – ms consultants

September 16, 2020



PURPOSE & NEED SUMMARY

- Congestion
- Safety
- Route continuity
- Geometric deficiencies
- Reconnect downtown to adjacent neighborhoods



PREFERRED ALTERNATIVE

- Widen to 5+ lanes each direction
- At least 2 lanes of continuity for I-70 and I-71
- Consolidate ramps to/from downtown & relocate to avoid weaves



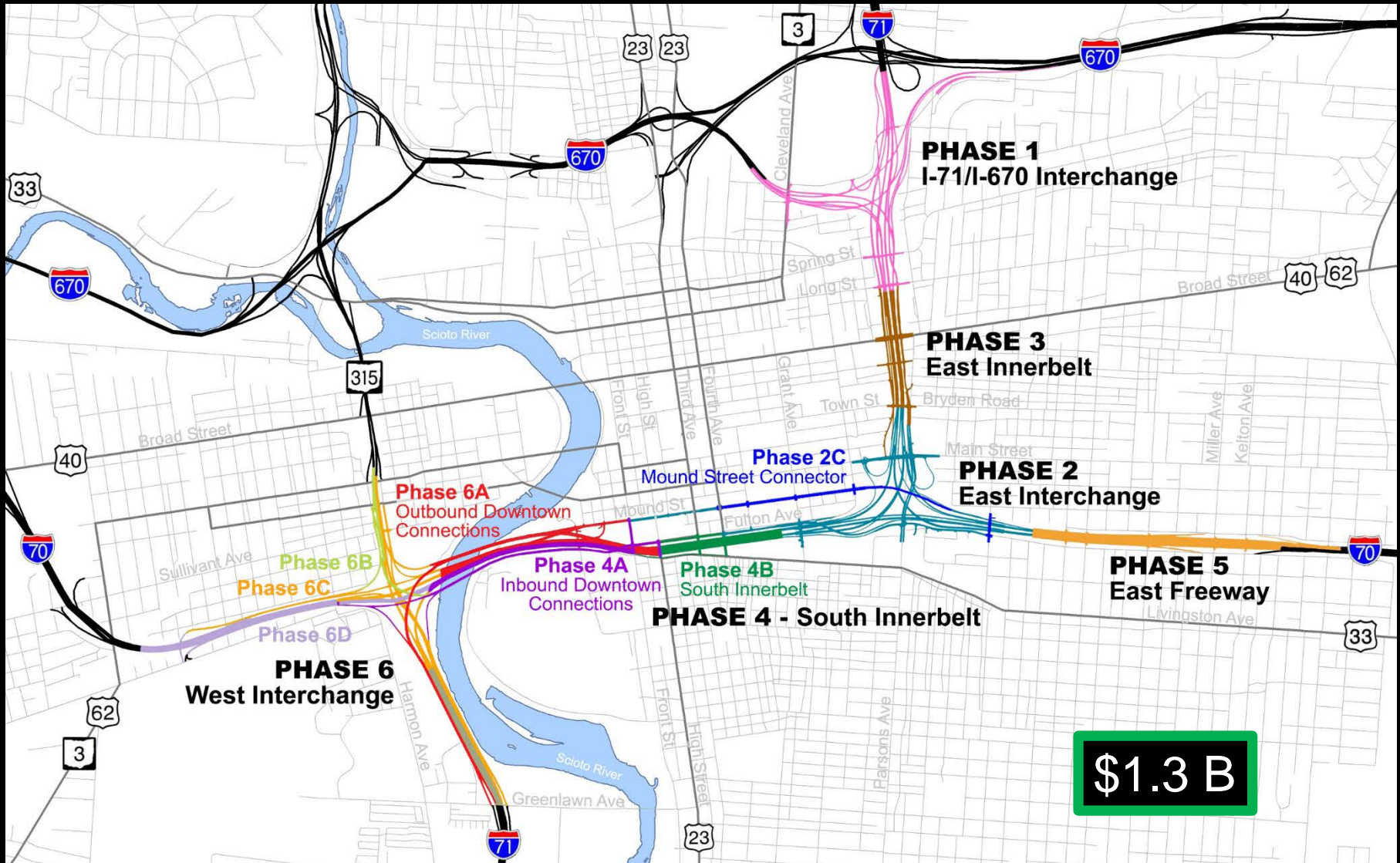
BEFORE



PROPOSED



I-70 / I-71 Phasing - 2013



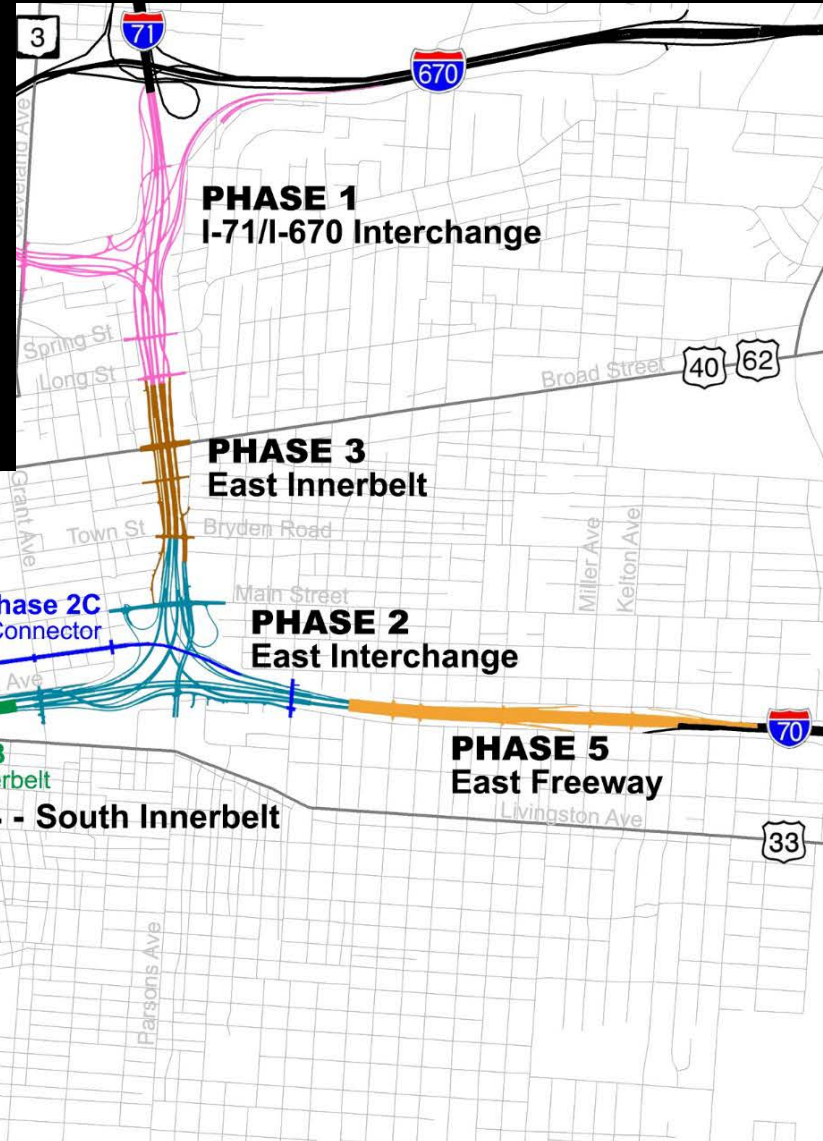
I-70 / I-71 Phasing



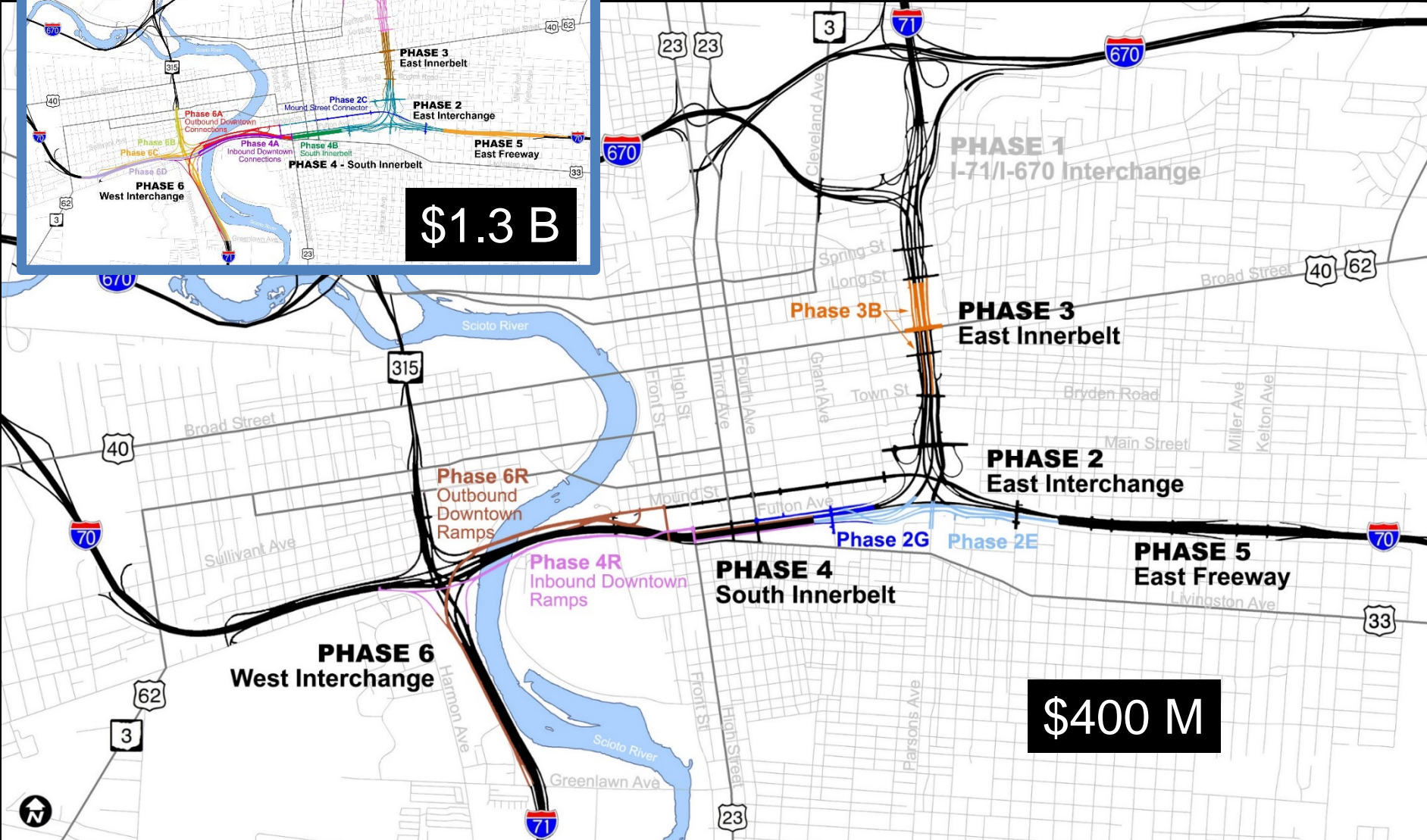
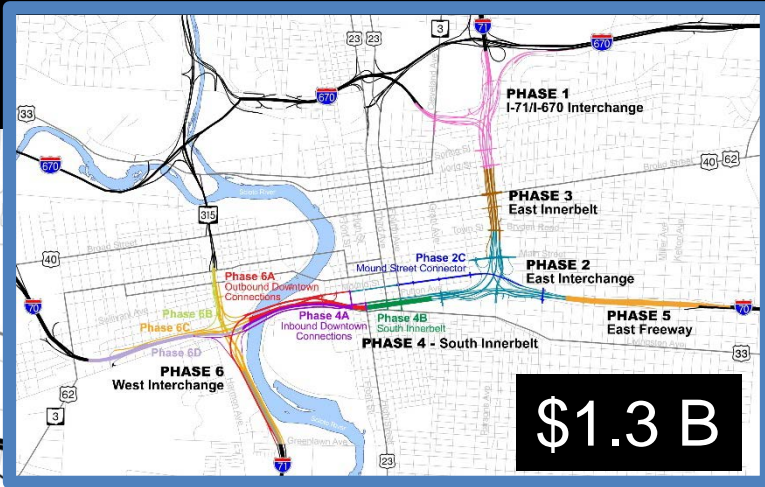
EVERYBODY WORK FROM HOME!!
Downtown congestion is fixed!!

I-70 / I-71 Phasing - 2013

- Phases need to be smaller
- Phases need to be prioritized
- Get most capacity/safety benefit in the earlier phases

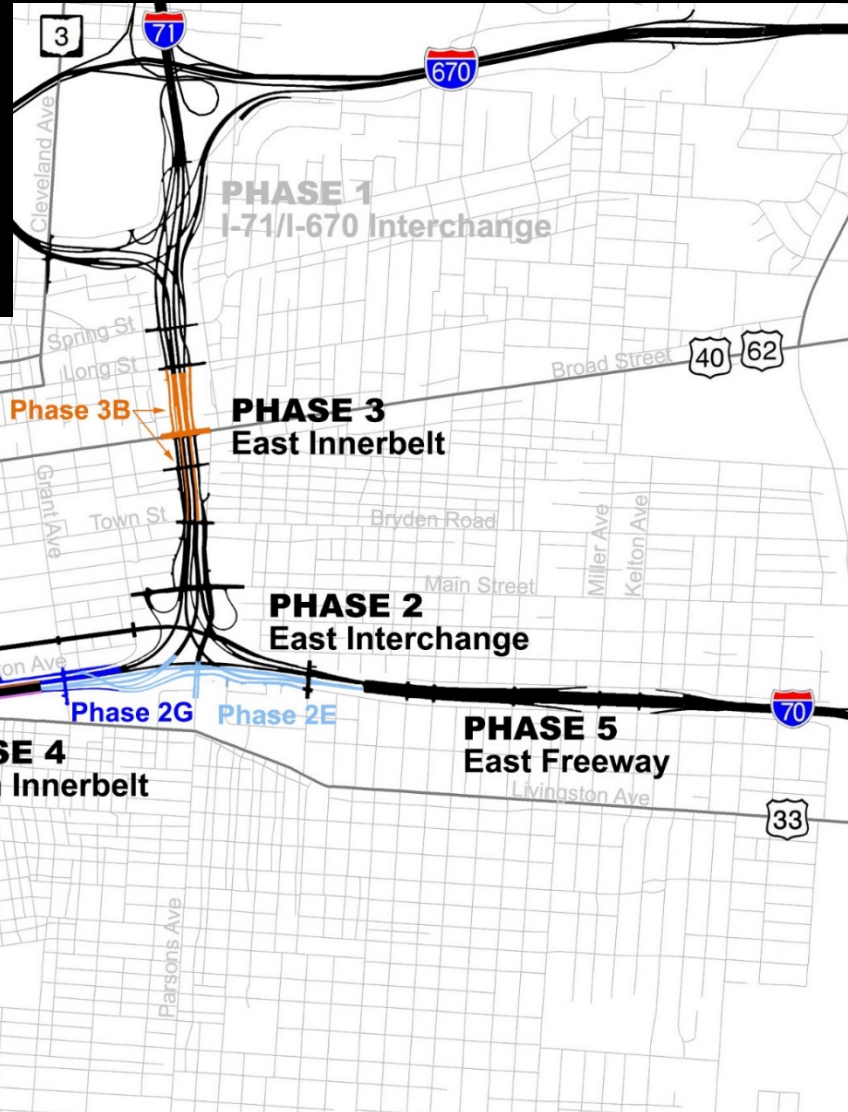


New Phasing Plan



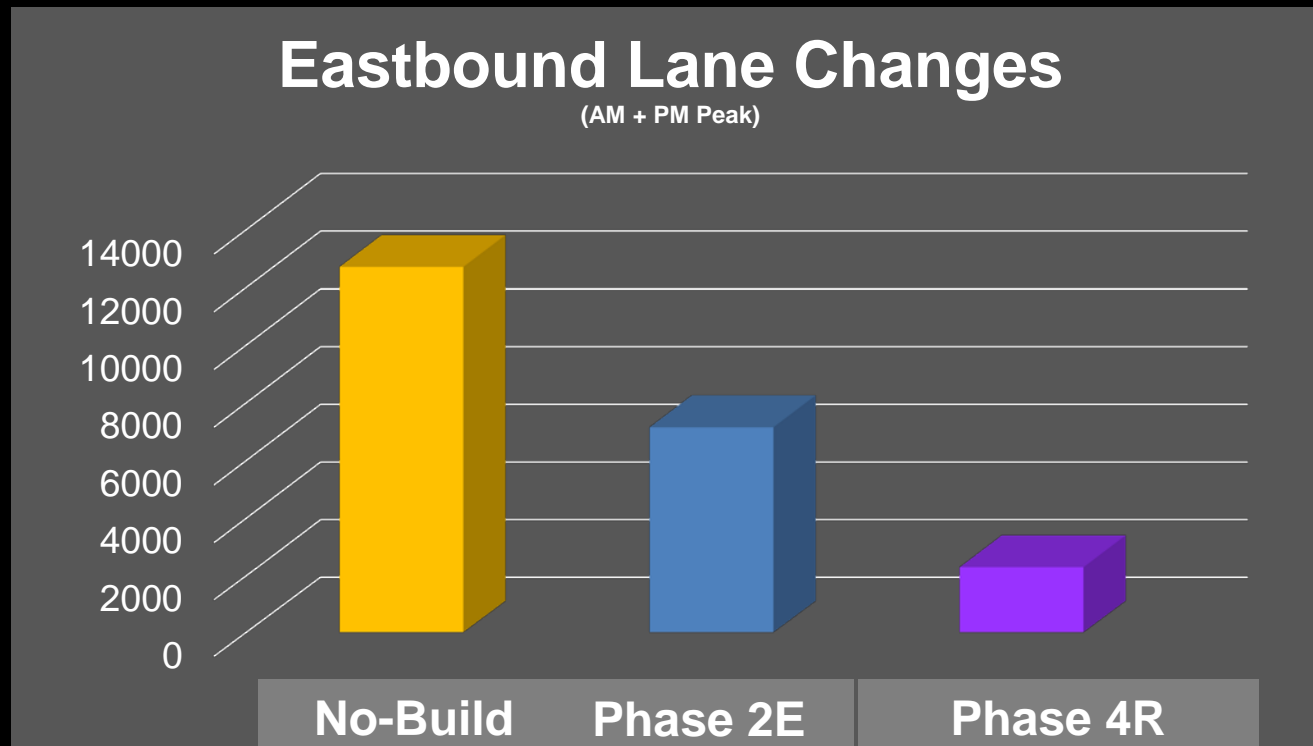
New Phasing Plan

- Safety
- Reduce weaving / lane changes
- Route continuity for freeways



Safety/Congestion Reanalysis

- Updated traffic volumes based on current counts
- Updated O-D analysis (StreetLight)
- Analyze weaves, lane changes
- Used to prioritize improvements

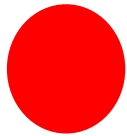


Safety/Congestion Reanalysis

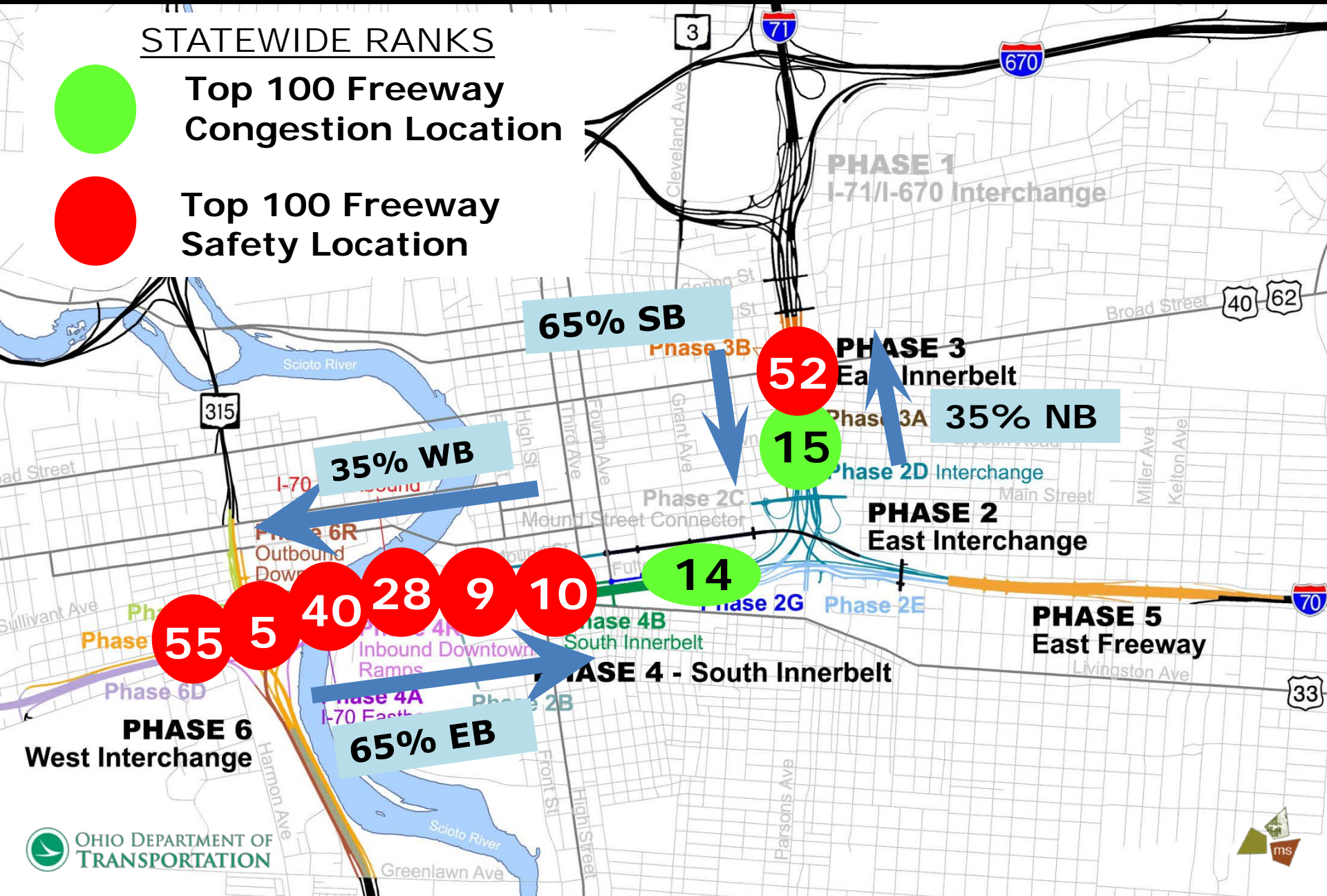
STATEWIDE RANKS



Top 100 Freeway
Congestion Location



Top 100 Freeway
Safety Location



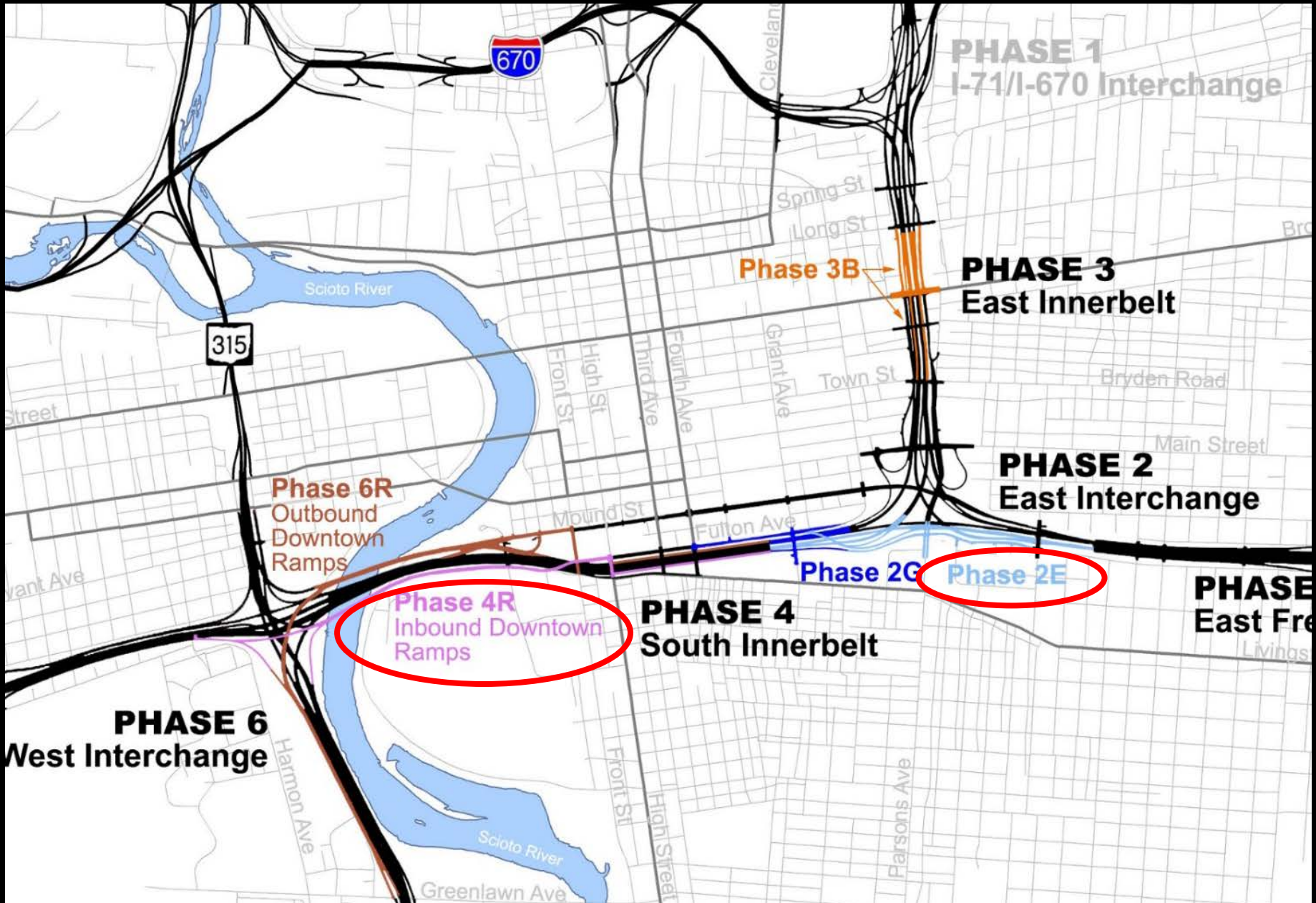
Performance Based Project Development

“Practical Design”

The Basic Tenets:

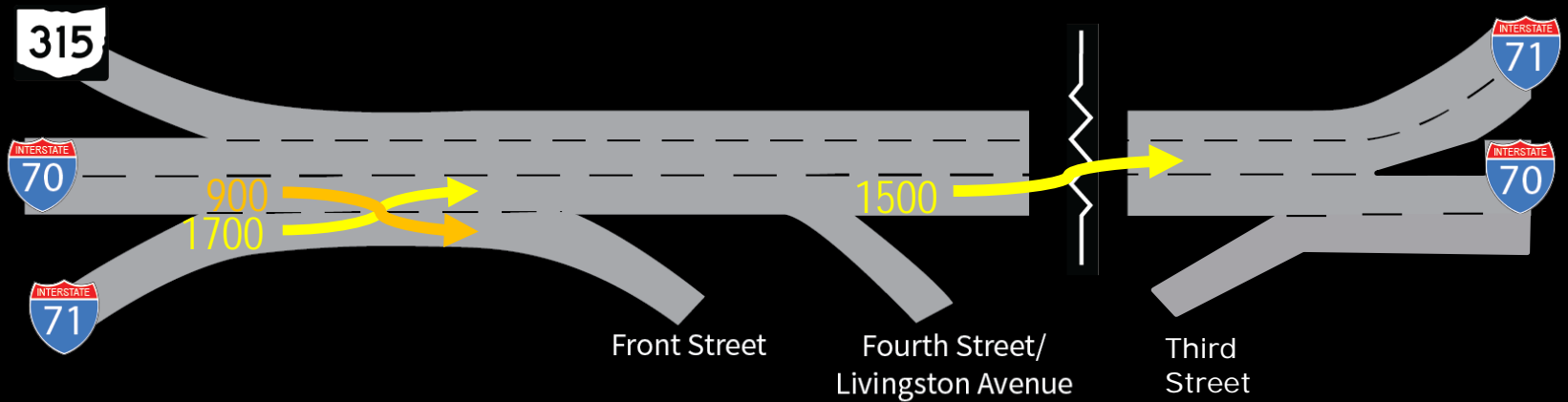
- Safety will not be compromised
- In many cases the minimum standard is the existing condition
- Focus Purpose & Need on specific problems
- Design solutions based on Purpose & Need
- Solutions based on mobility, operations and other modes
- Design should be consistent with corridor context
- Design should maximize benefit/cost

I-70 Eastbound

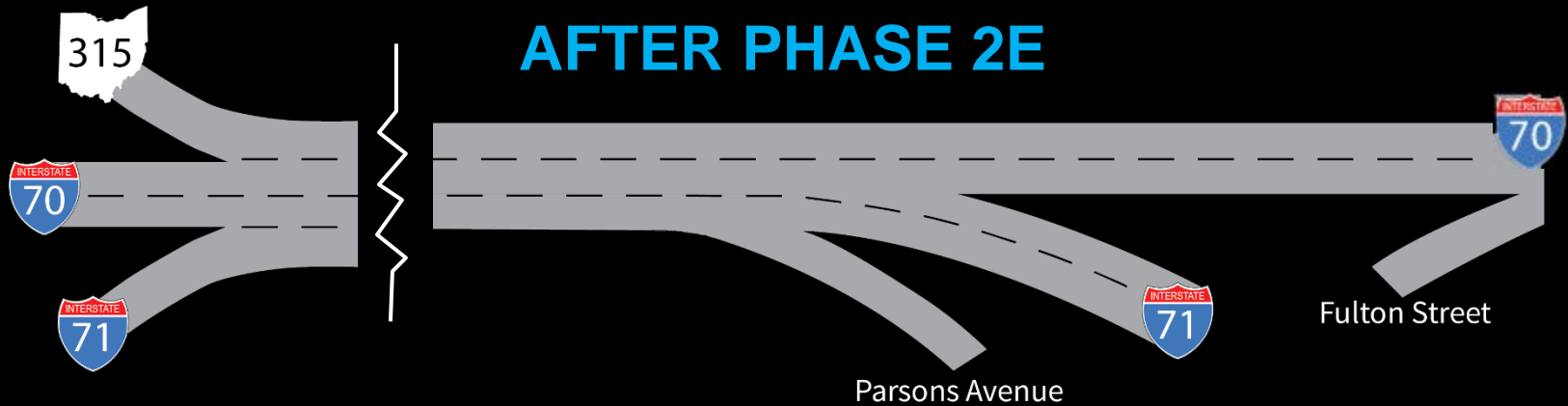
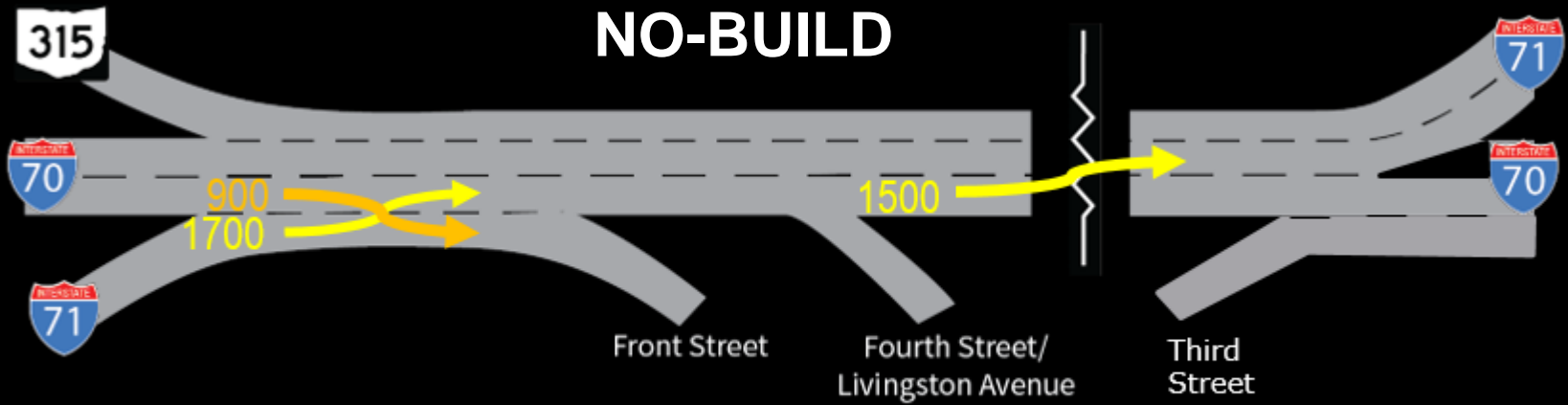


I-70 Eastbound

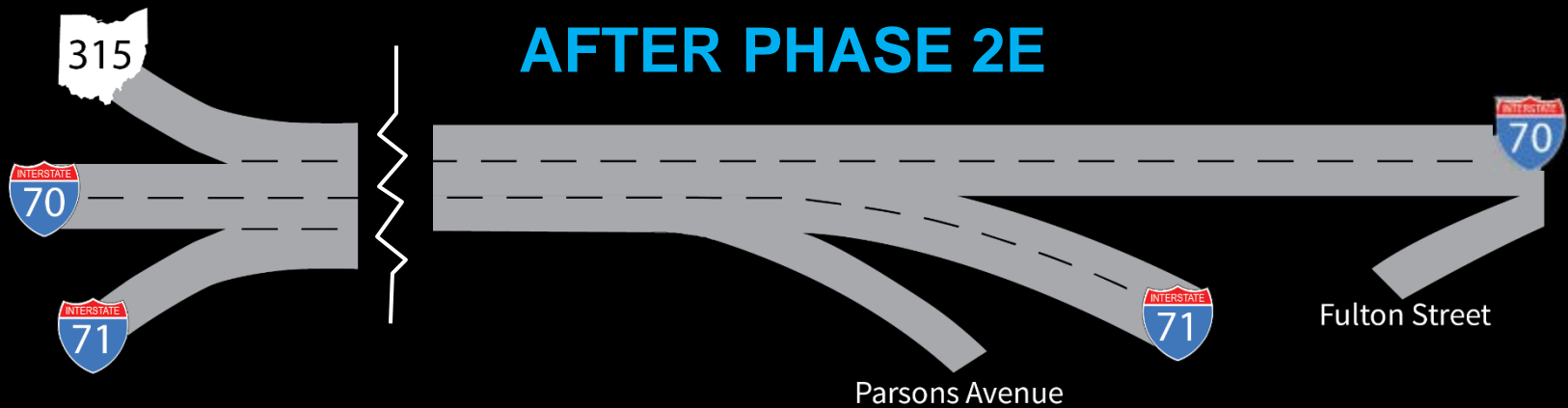
NO-BUILD CONFIGURATION



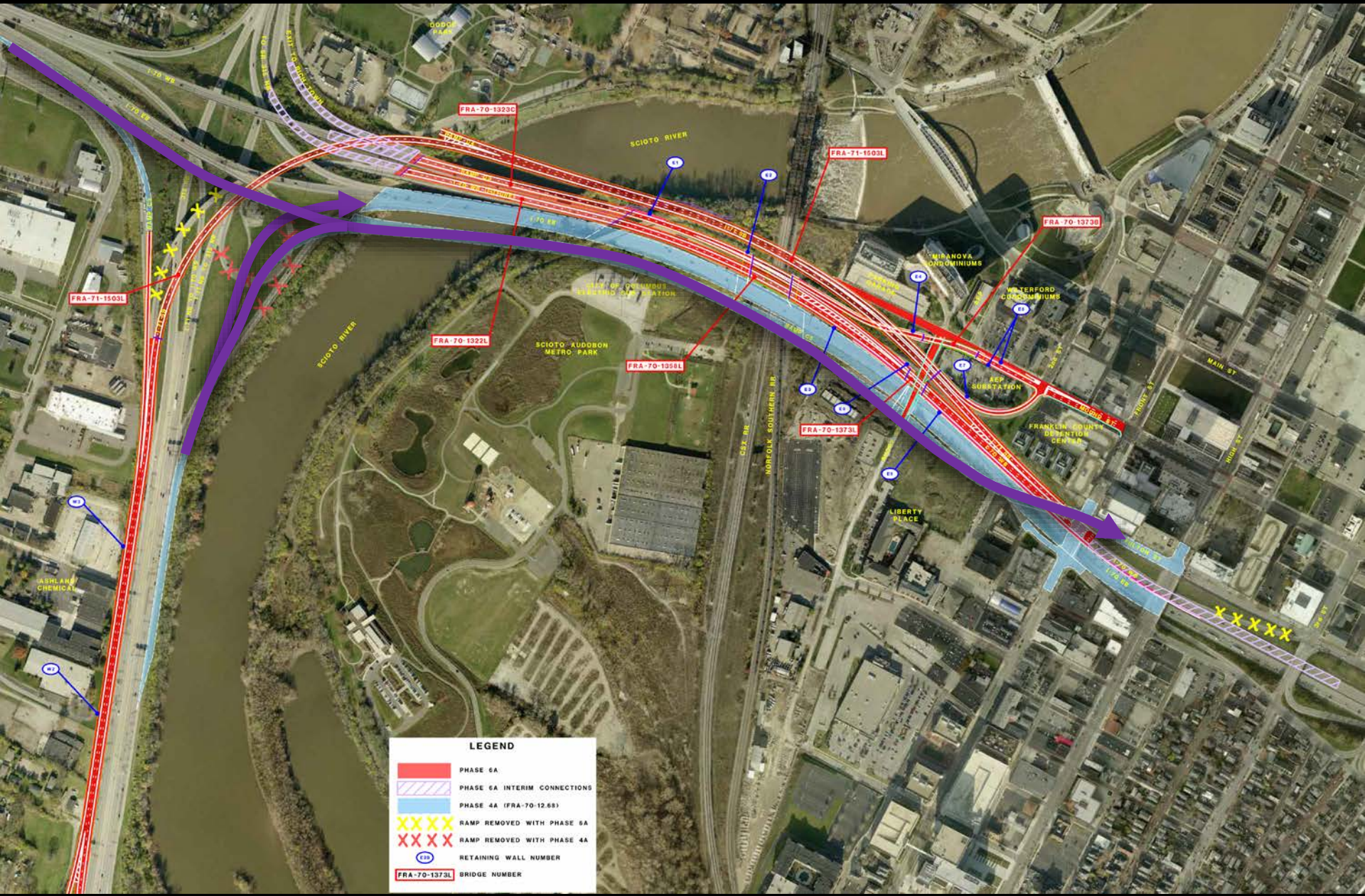
I-70 Eastbound



I-70 Eastbound



I-70 Eastbound – Phase 4R

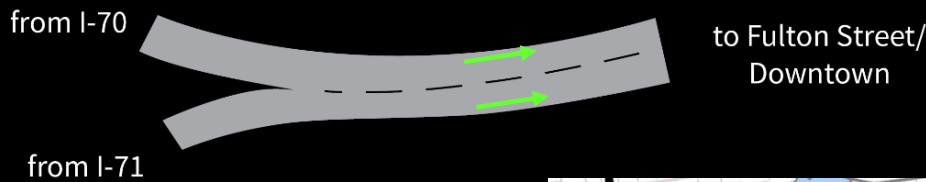
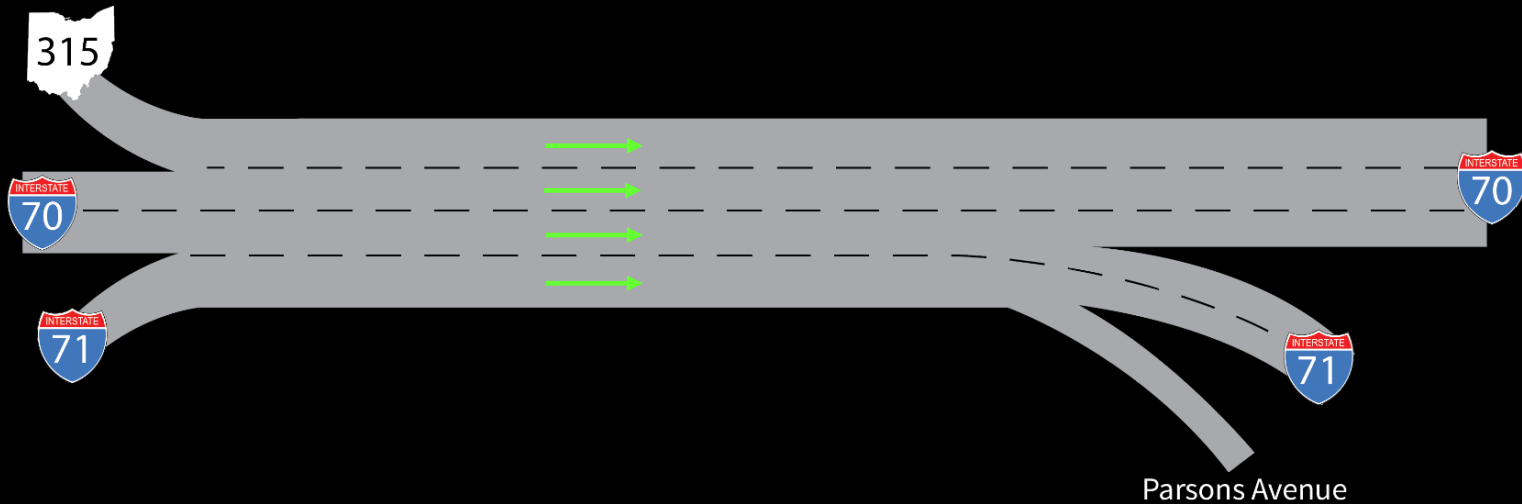


LEGEND

- PHASE 6A
- PHASE 6A INTERIM CONNECTIONS
- PHASE 4A (FRA-70-12.65)
- RAMP REMOVED WITH PHASE 6A
- RAMP REMOVED WITH PHASE 4A
- RETAINING WALL NUMBER
- FRA-70-1373L BRIDGE NUMBER

I-70 EB Improvements (Phase 2E + Phase 4R)

PROPOSED CONFIGURATION



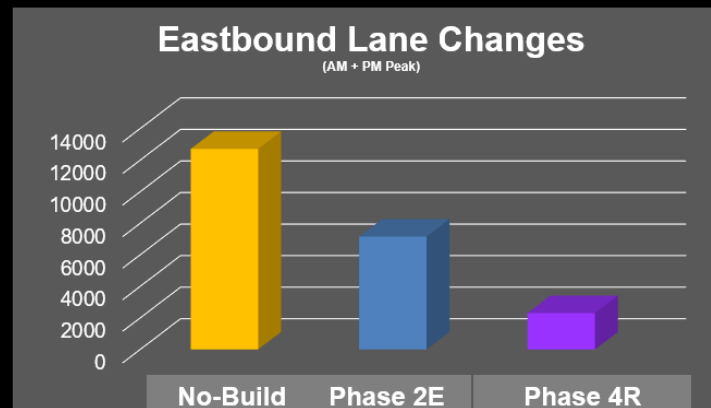
I-70 Eastbound



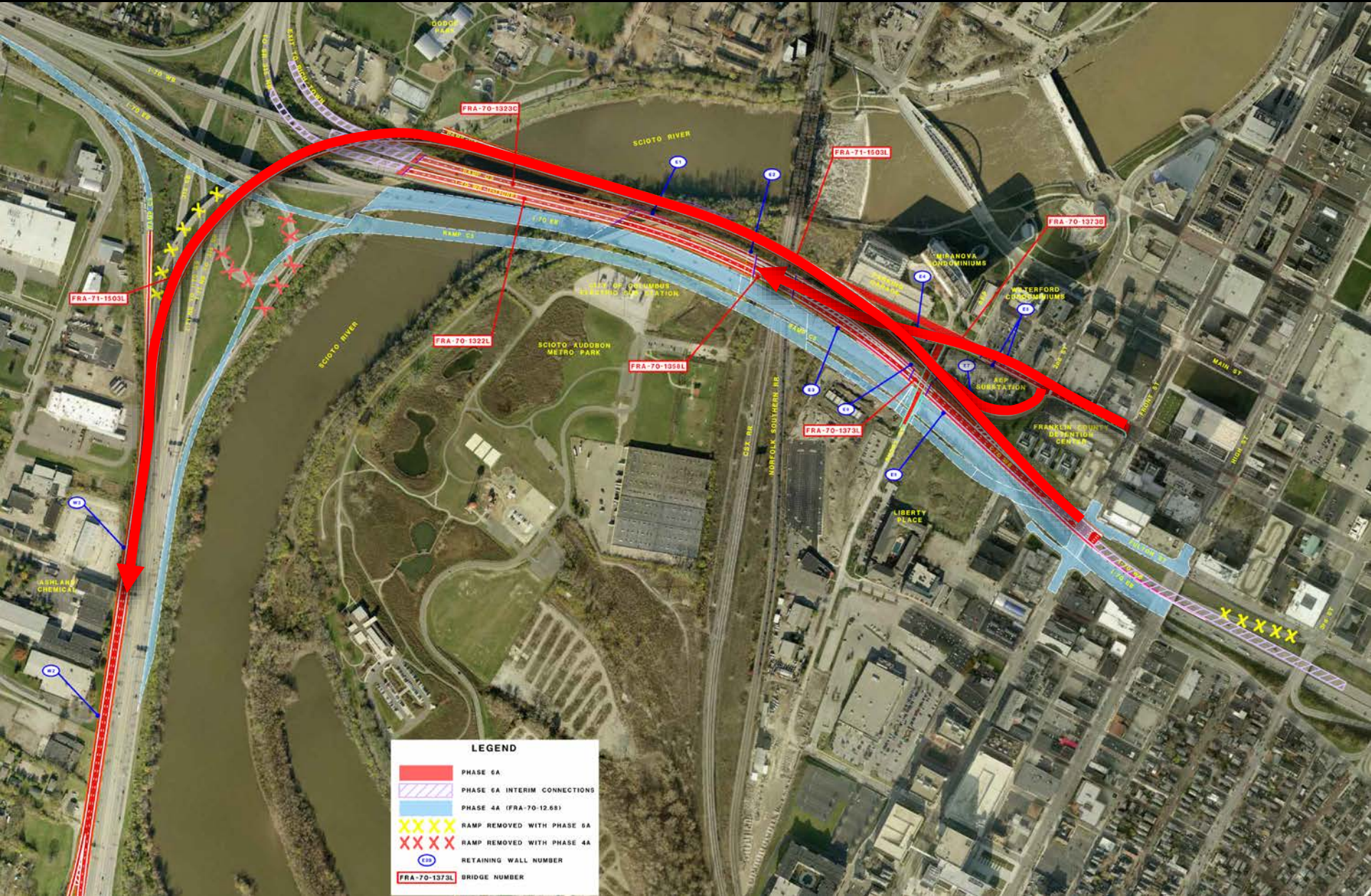
I-70 EB Improvements

(Phase 2E + Phase 4R)

- Cannot fit 4 EB lanes + standard shoulder
- Highway Safety Manual / ODOT ECAT tool
- Analyzed condition with lesser lane/shoulder widths
- Results showed very small effect of lane/shoulder widths
- **Eliminates 90%** of EB lane changes/weaving traffic in this section



Phase 6R – West Ramps

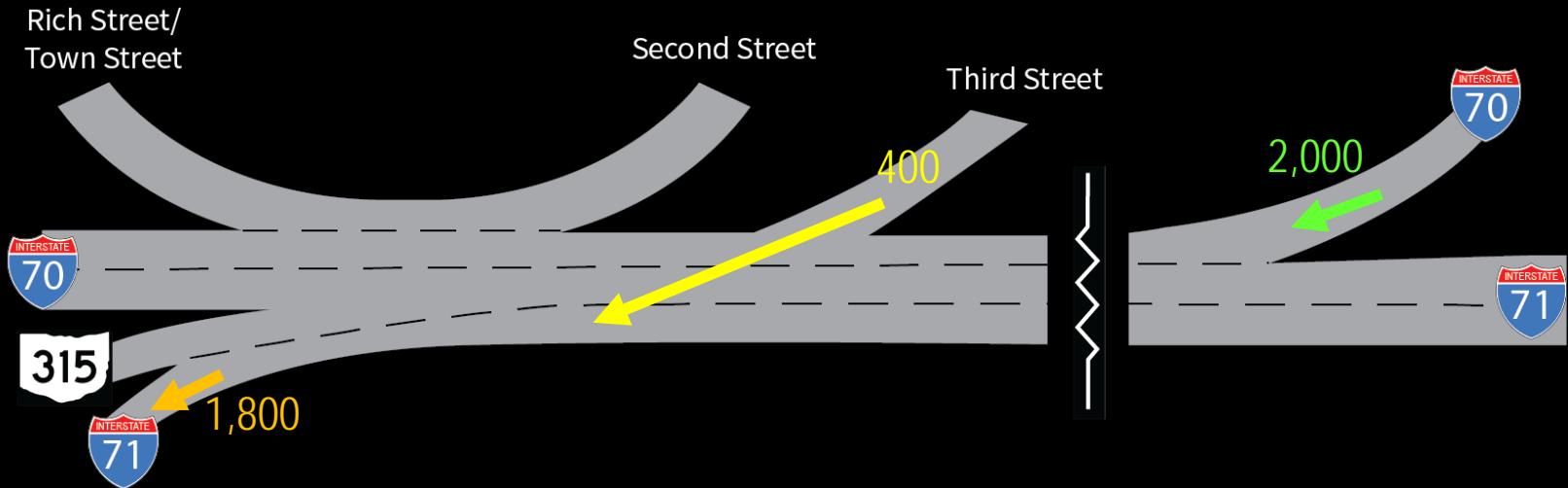


LEGEND

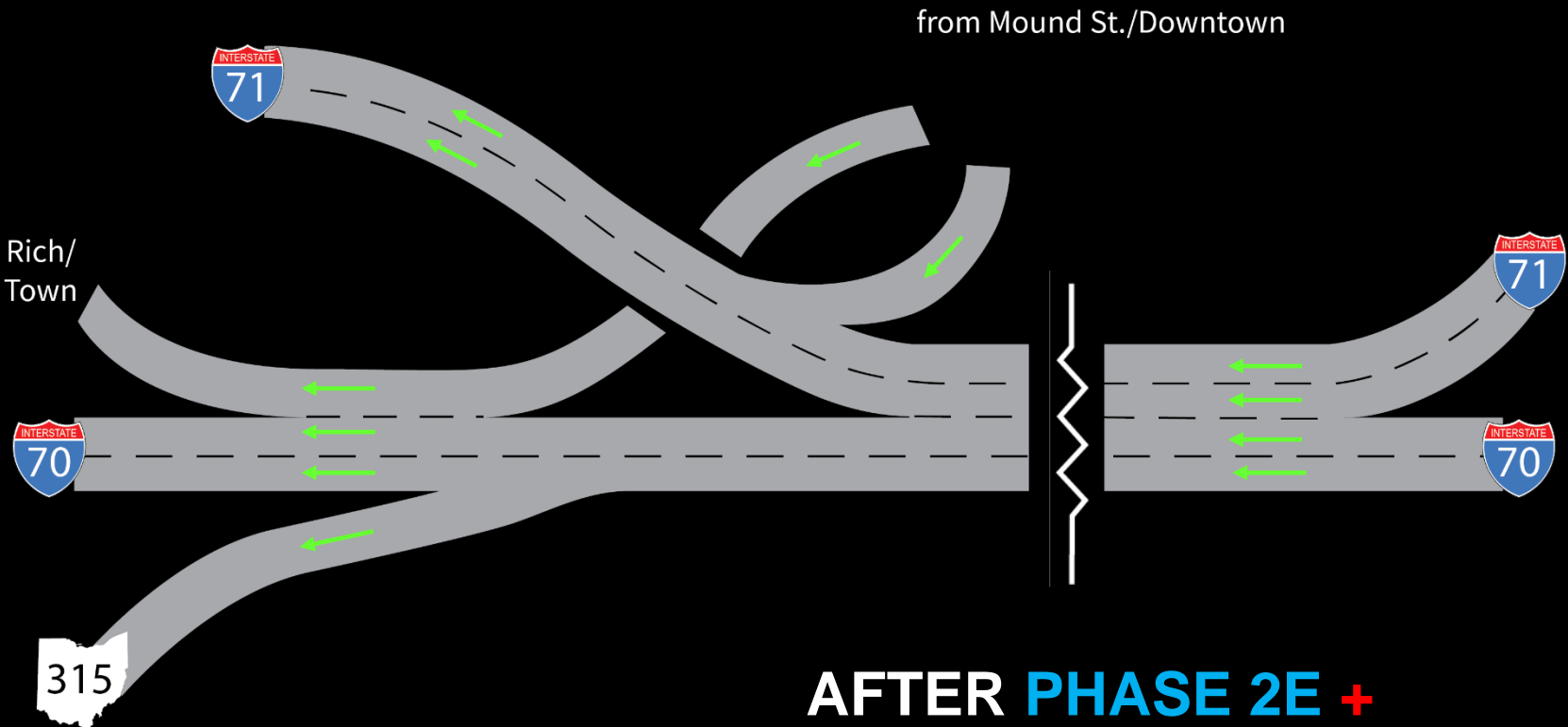
- PHASE 6A
- PHASE 6A INTERIM CONNECTIONS
- PHASE 4A (FRA-70-12.65)
- XXXX RAMP REMOVED WITH PHASE 6A
- XXXX RAMP REMOVED WITH PHASE 4A
- 11 RETAINING WALL NUMBER
- FRA-70-1373L BRIDGE NUMBER

I-70 Westbound

NO-BUILD CONFIGURATION



I-70 Westbound



**AFTER PHASE 2E +
PHASE 6R**

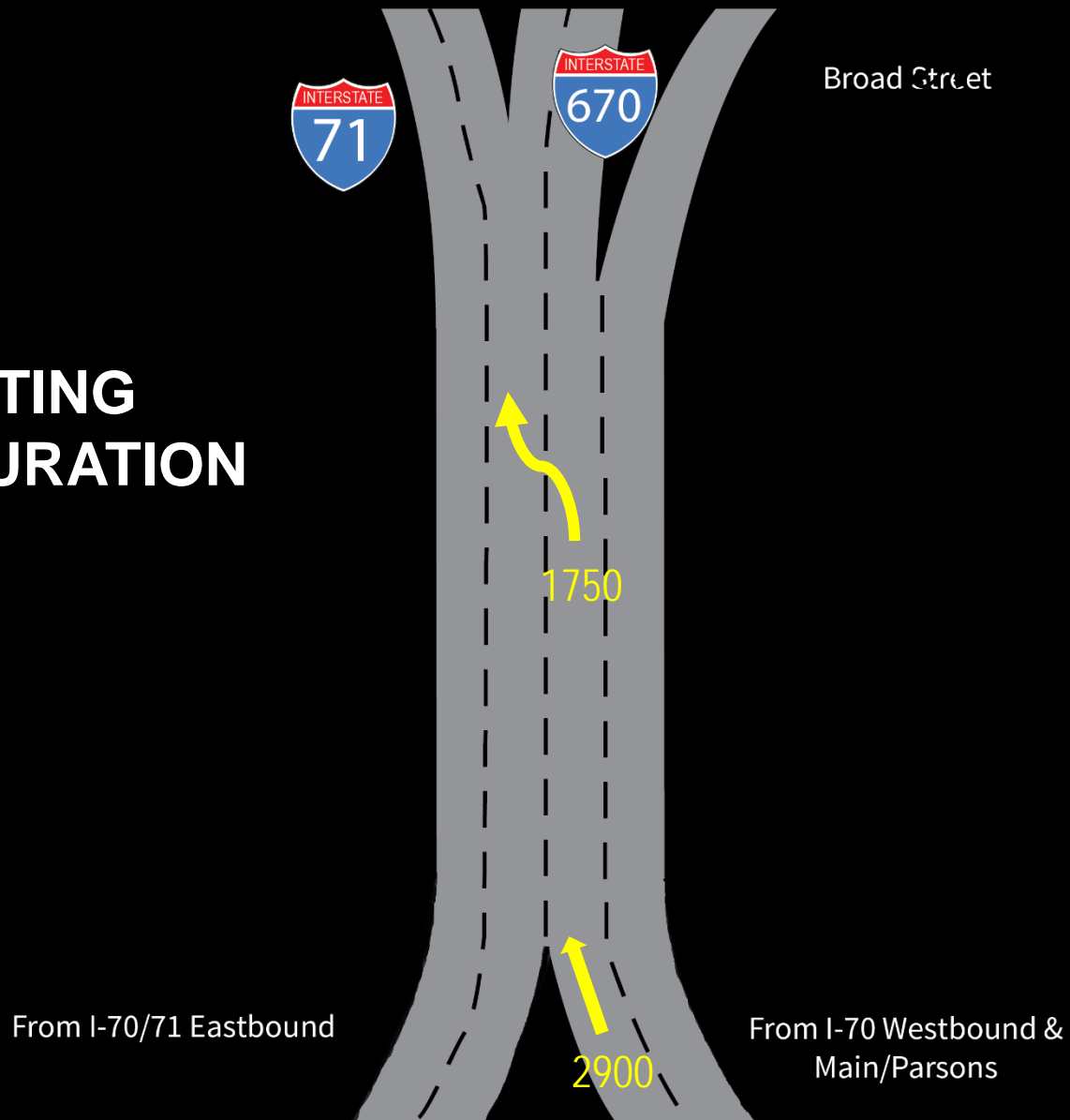
Phase 3B – Broad



Parsons Ave.

I-71 Northbound

EXISTING CONFIGURATION



Phase 3B – Broad



Phase 3B – Broad



Ramp to I-71 NB backs up onto I-70 WB....

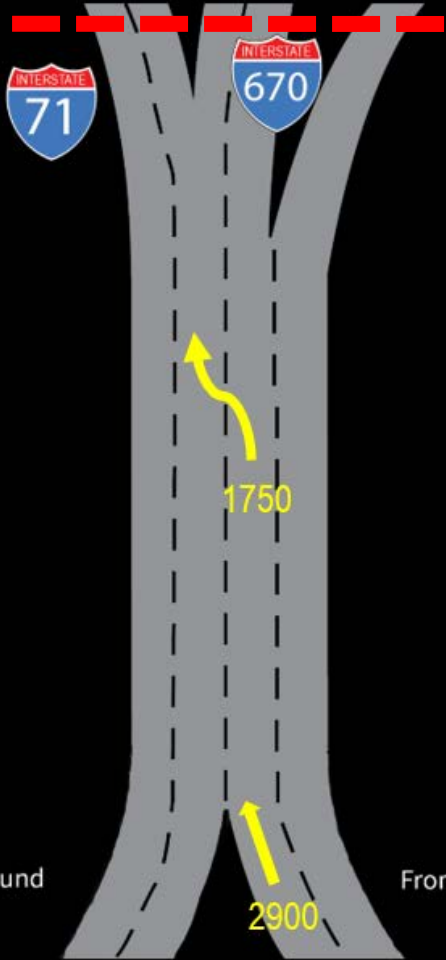
Phase 3B – Broad



...which backs up I-70 WB approaching downtown

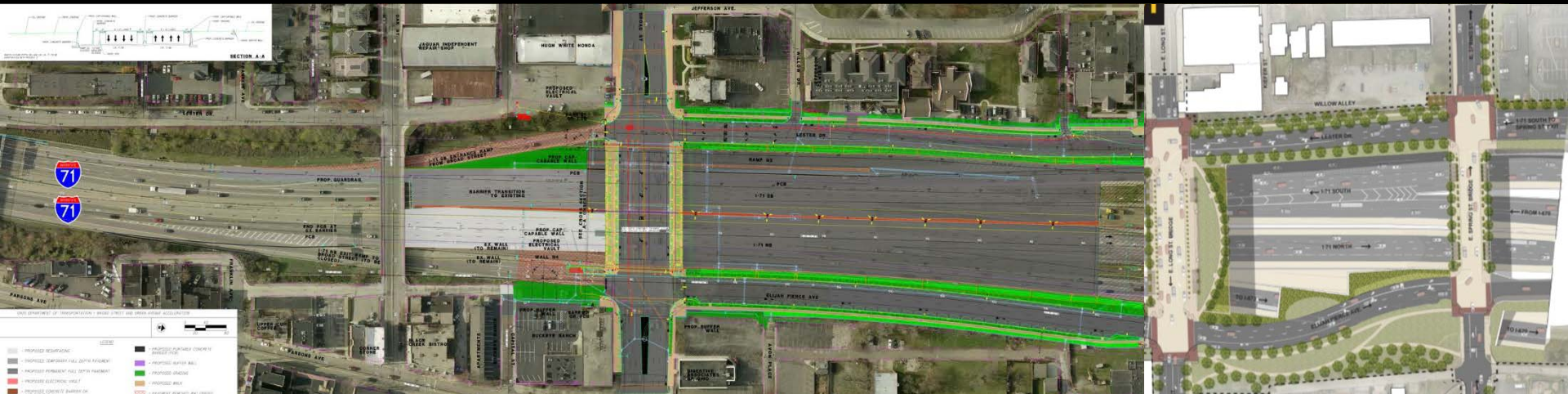
Phase 3B – Broad

Looking North - Existing



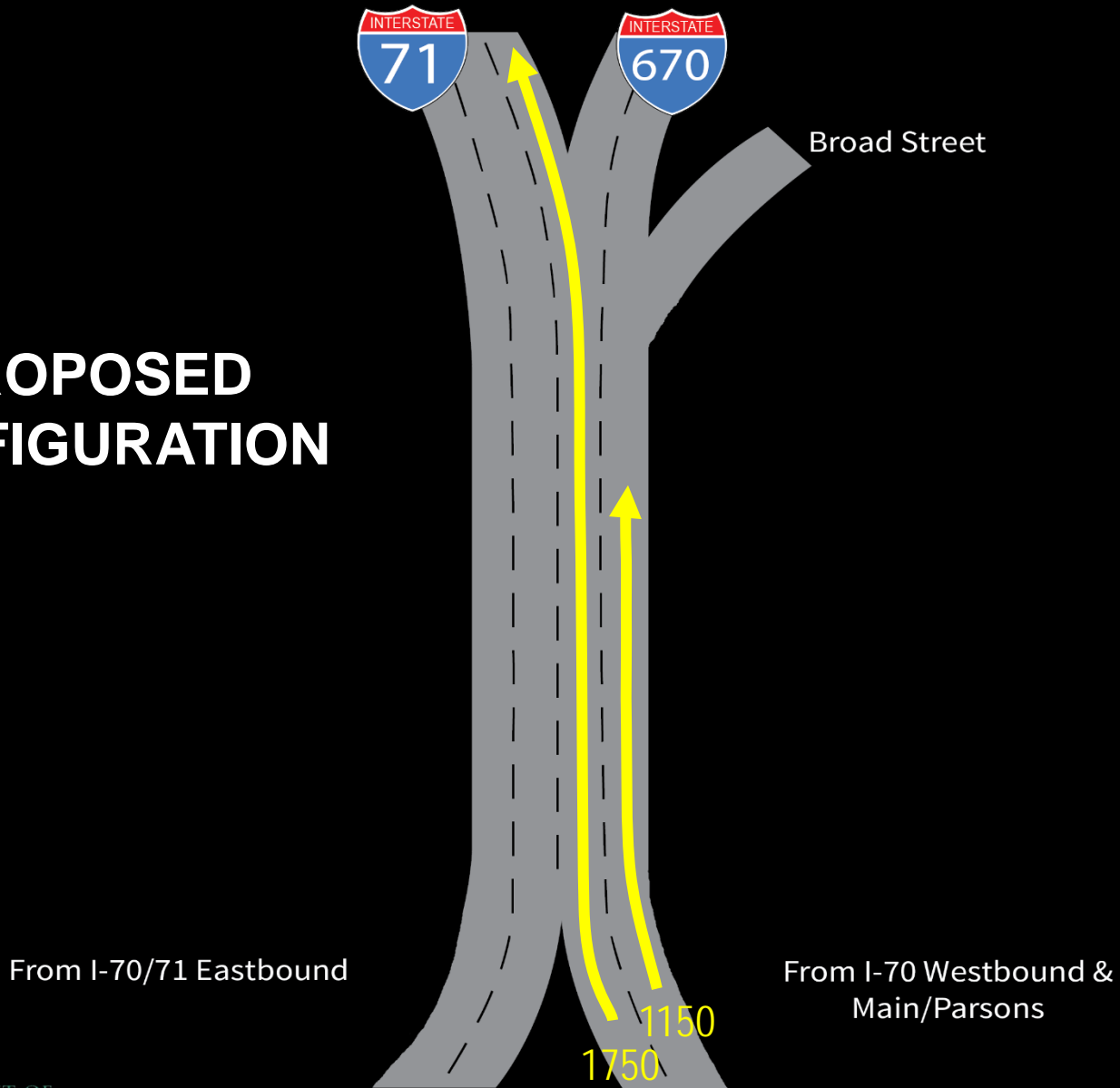
Phase 3B – Broad

- Replaces Broad St. bridge
- Removes Broad St. ramps to/from the north
- Extends Lester & Elijah Pierce to Broad St



I-71 Northbound

PROPOSED CONFIGURATION



I-71 Northbound Improvements

- **Benefits:**
 - **Additional through lane on I-71 NB**
 - **40% reduction in lane changes on I-71 NB**
 - **Improves operations from LOS F to LOS E**
 - **Much better lane balance on I-70 WB – improving operations approaching East Interchange**
 - **Connects Broad St. to the NB urban avenue**

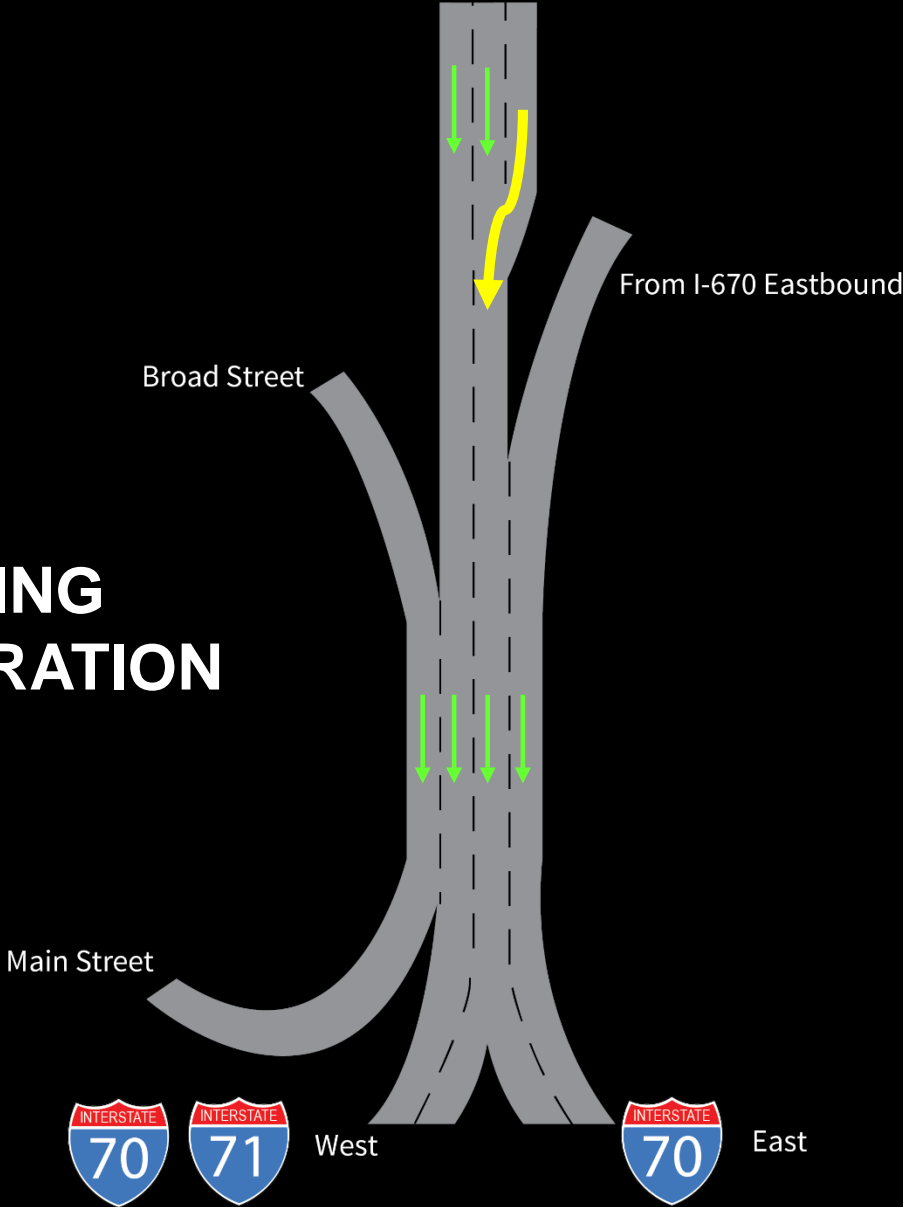
Phase 3B – Broad

EXISTING



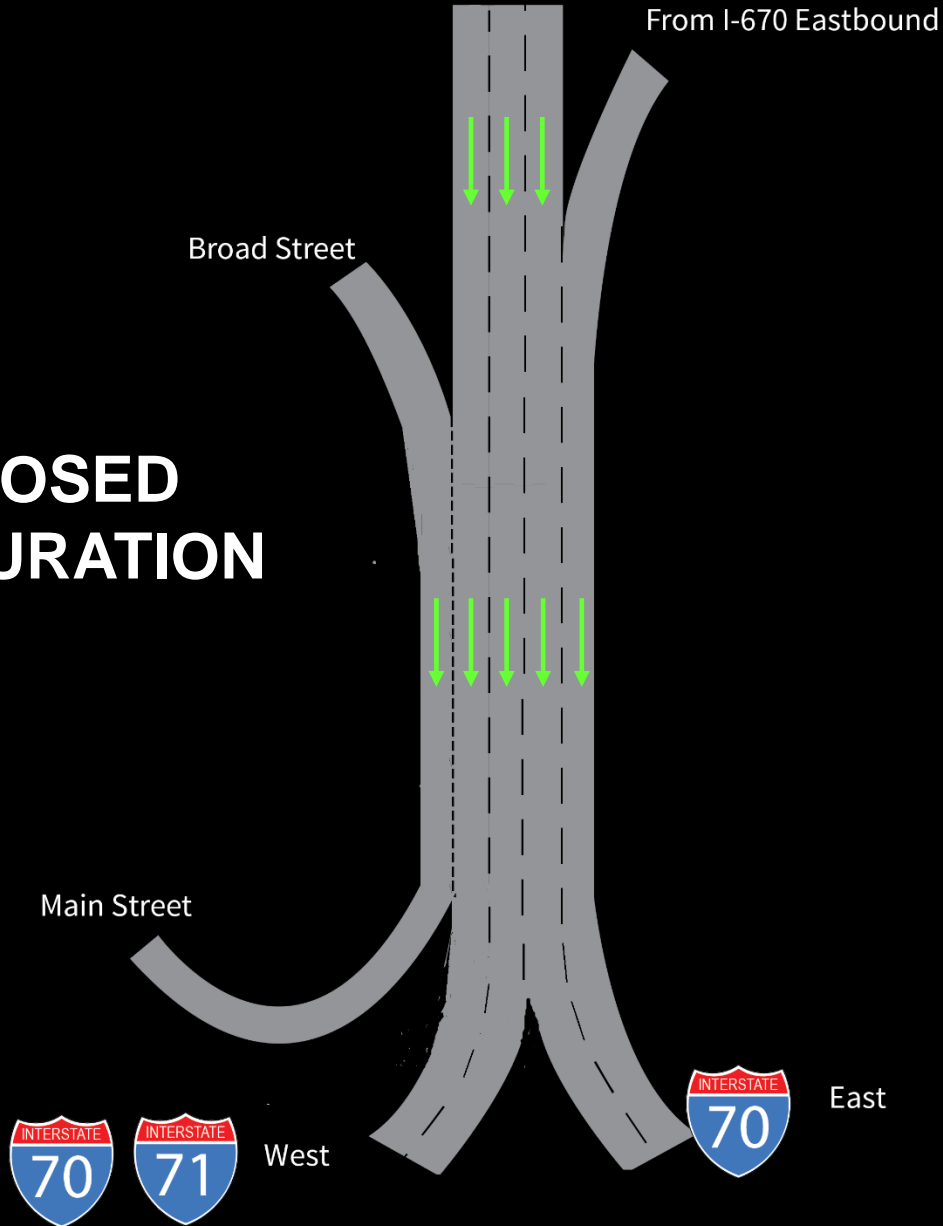
I-71 Southbound

EXISTING CONFIGURATION

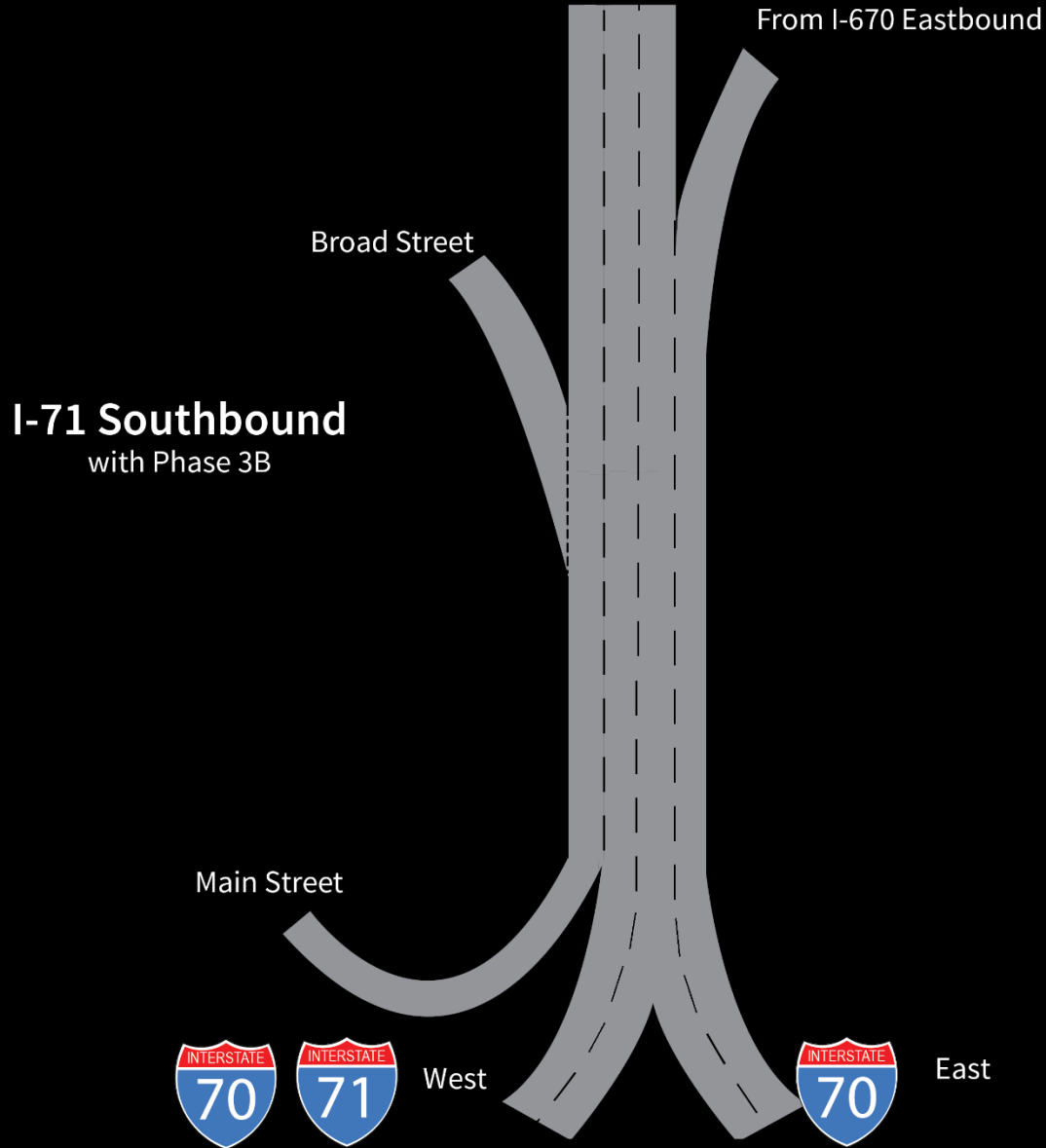


I-71 Southbound

PROPOSED CONFIGURATION



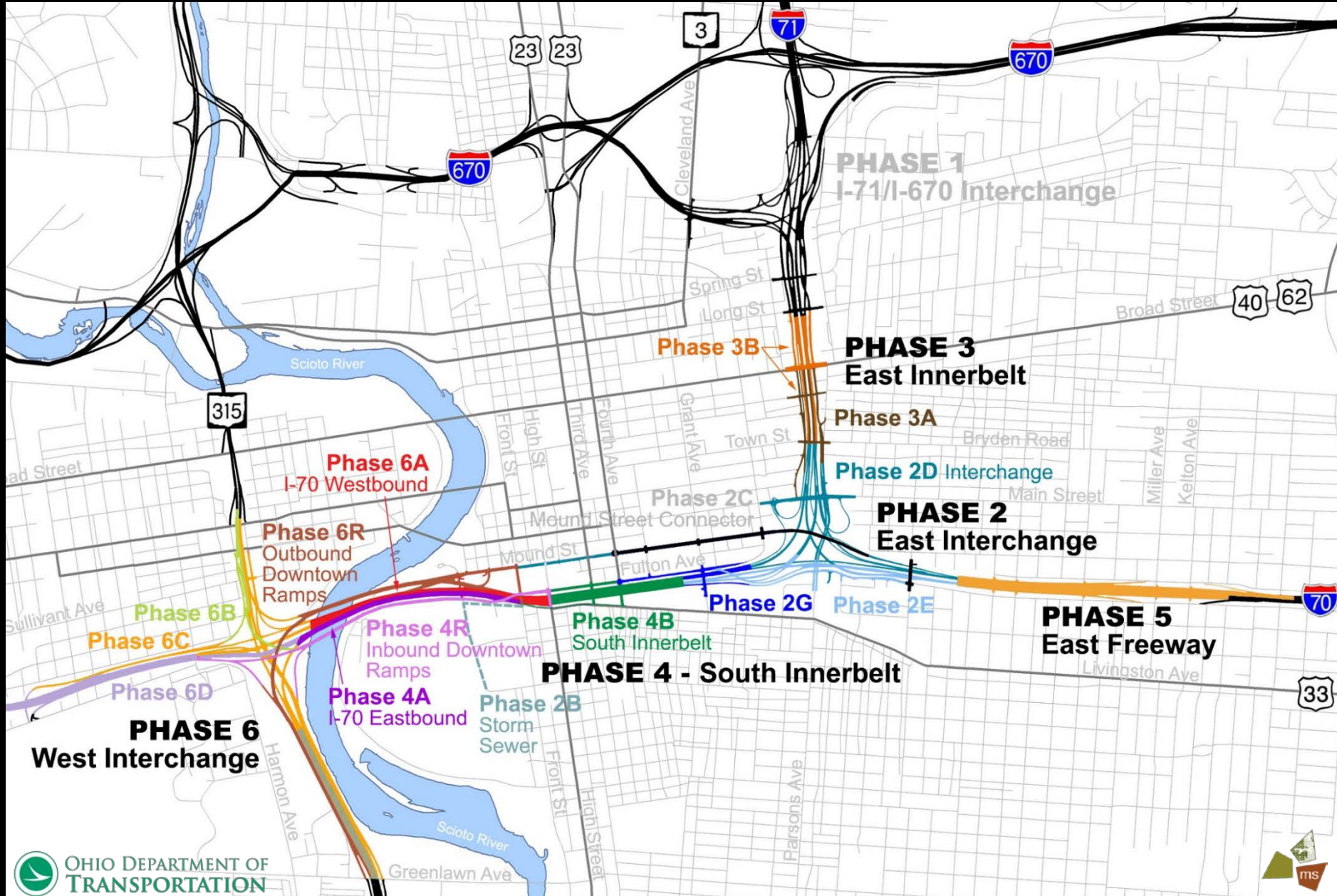
Phase 3B – Broad



Phase 3B – Broad

- **Benefits (Southbound):**
 - **Additional through lane on I-71 SB**
 - **Eliminates left-hand lane drop**
 - **50% reduction in lane changes on I-71 SB**
 - **Eliminates weaving section between I-670 WB and Broad St. ramp (Broad St. ramp is removed)**

Current Phasing





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**OHIO DEPARTMENT OF
TRANSPORTATION**

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