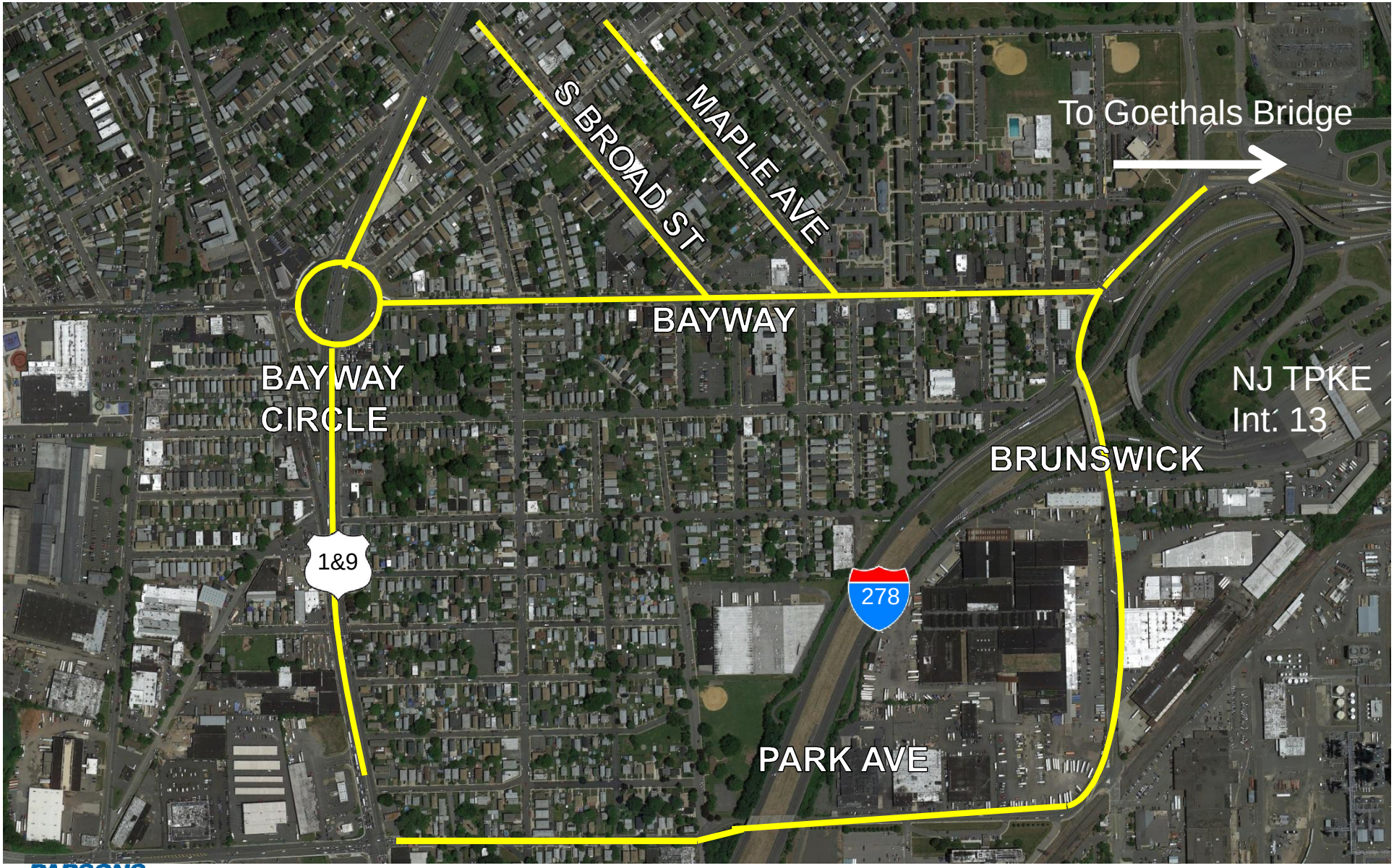
Goethals Bridge Interchange Ramps
(U.S. Route 1&9 and I-278 Interchange)

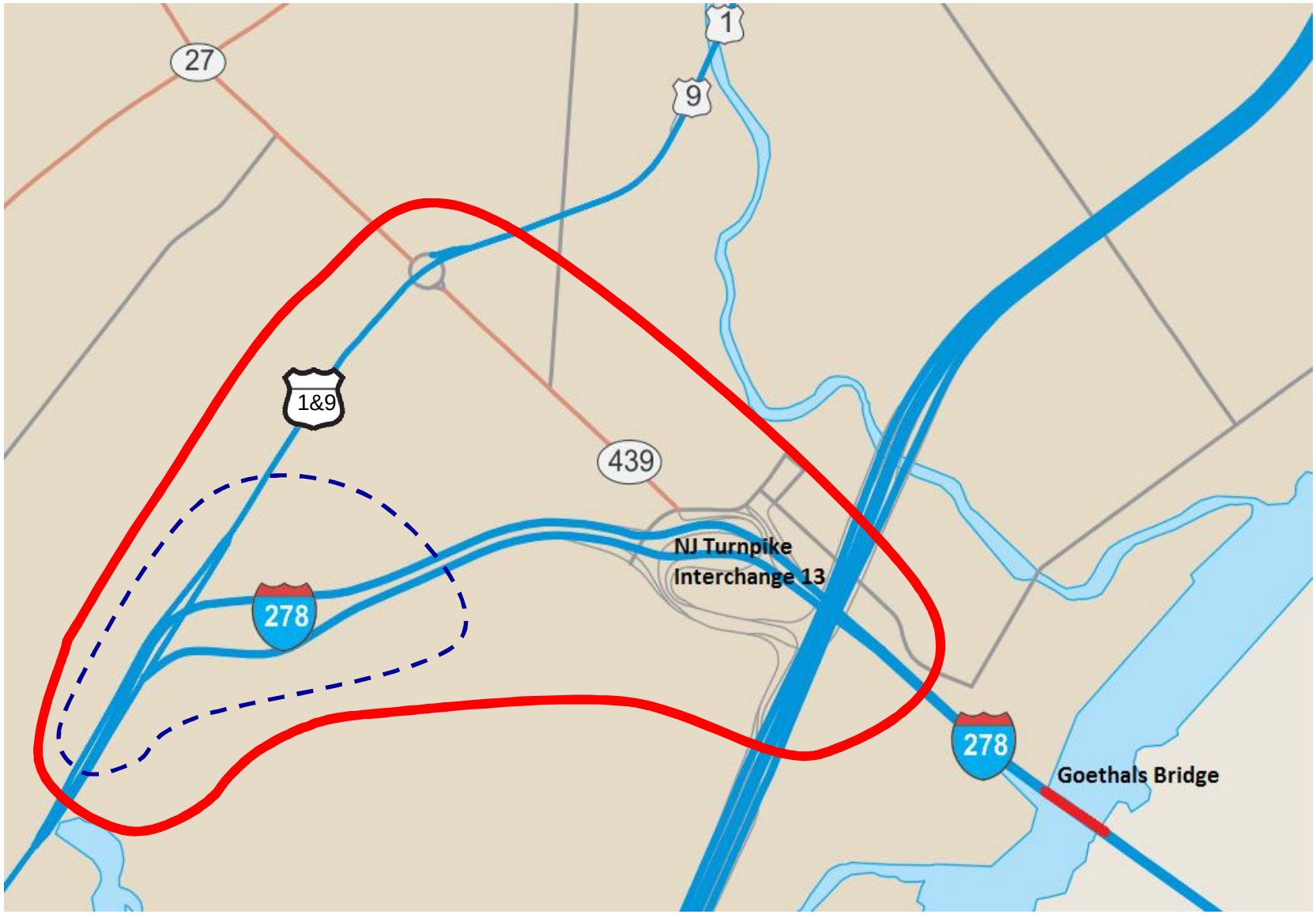
PARSONS BRINCKERHOFF

October 27, 2014

Current Traffic Flow



PARSONS BRINCKERHOFF



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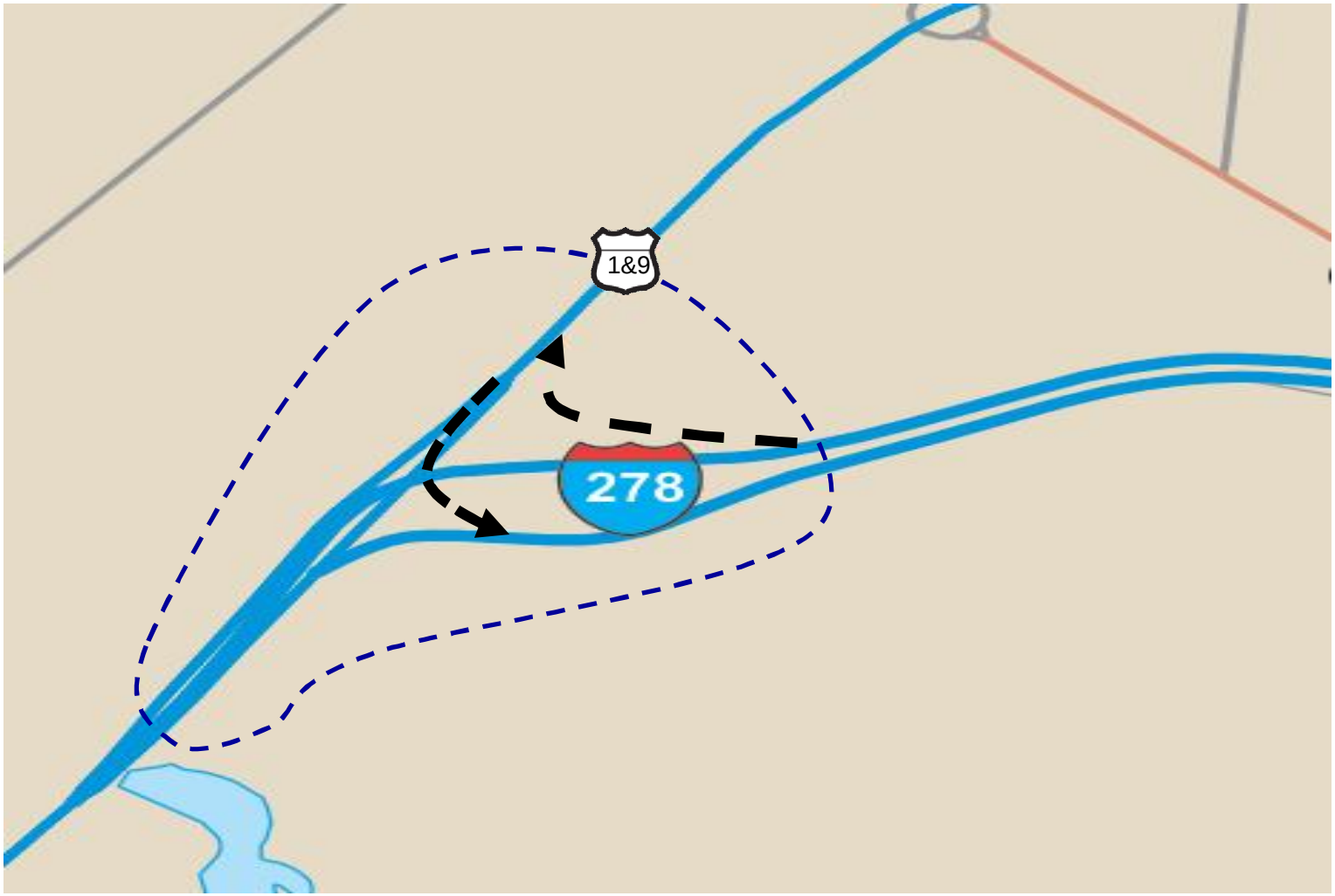
Project Area

Traffic Study Area



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Project Area

Project Updates Since Last Public Meeting

- Continued Outreach (Website, Technical Advisory Committee, etc.)
- Transportation Demand Model
- Traffic Volumes & Analysis
- Wetland Delineation
- Preparation of Draft Reports
- Field Survey
- Workshops with NJDOT and Federal Highway Administration
- Development of Alternatives
- Screening Analysis

Technical Advisory Committee Membership

- FHWA
- NJDOT
- NJDEP
- Union County
- City of Linden
- City of Elizabeth
- NJTPA
- NJTA
- US EPA
- NJ Historic Preservation Office

TDM and Traffic Volumes

- Updated Network Elements
  - Ramp bottleneck on Newark Bay Hudson County Extension (exit 14A) removed
  - New truck model used to yield better results on local streets
  - Calibrated the base model to updated 2010 employment data
- No-Build Traffic Volumes
- Build Traffic Volumes

Traffic Volumes (Peak Hour)

Roadway	2010 Existing Volumes (vph)		2040 No Build Volumes (vph)		2040 Build Volumes (vph)	
	AM	PM	AM	PM	AM	PM
I-278 Westbound	880	1103	960	1300	1280	1695
I-278 Eastbound	1085	858	1510	1150	1855	1400
Route 1&9 NB btw I-278 & Bayway Circle	1265	1593	1440	2040	1940	2430
Route 1&9 SB btw I-278 & Bayway Circle	1143	1507	1350	1590	1885	1990
Route 1&9 NB north of Bayway Circle	1659	1986	1960	2240	1895	2175
Route 1&9 SB north of Bayway Circle	1401	2041	1700	2470	1560	2345
Bayway Ave WB	429	403	485	465	265	215
Bayway Ave EB	520	588	620	685	405	490
Ramp I-278 WB to 1&9 NB	---	---	---	---	340	400
Ramp 1&9 SB to I-278 EB	---	---	---	---	560	330

Alternatives Development

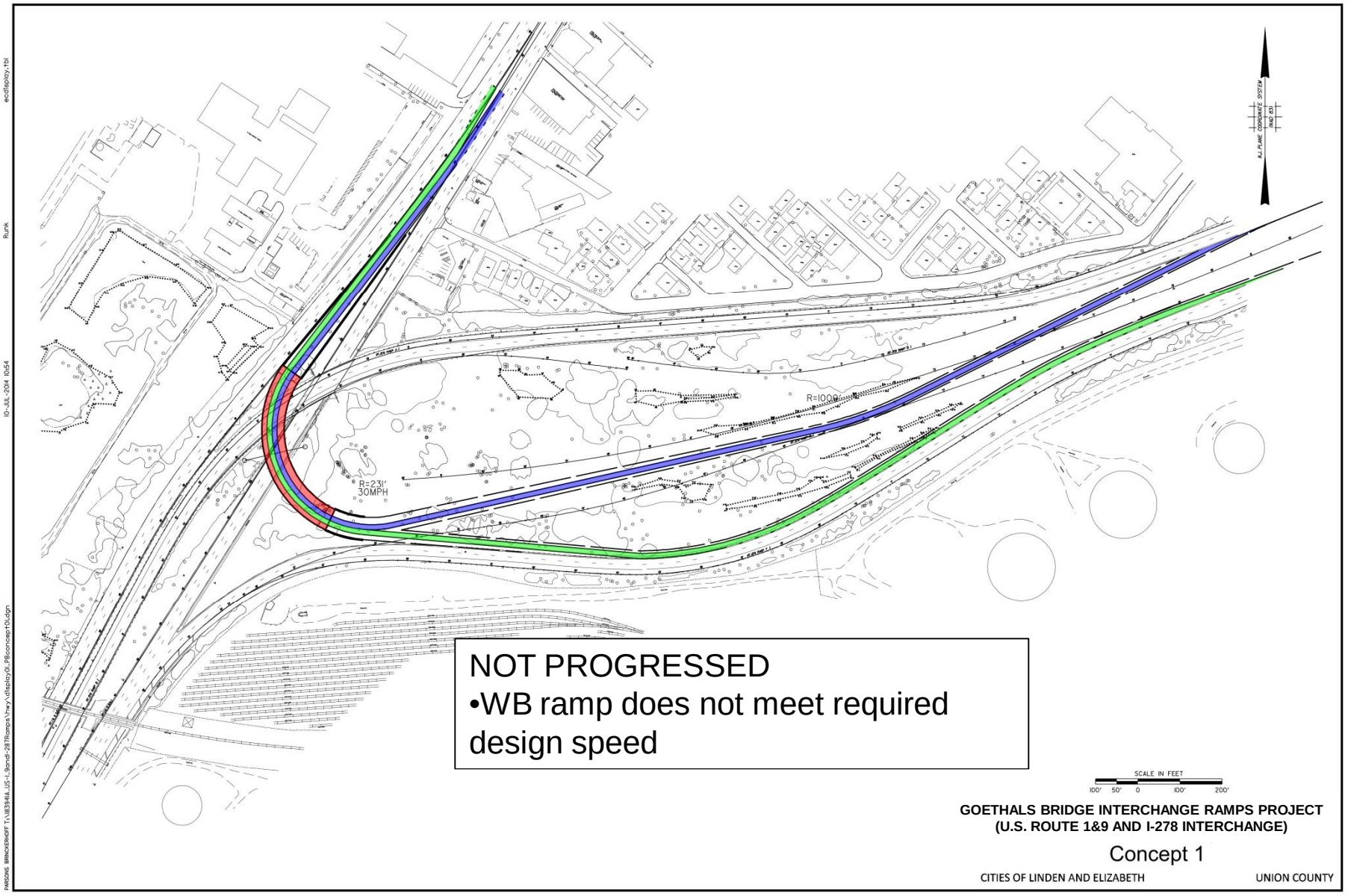
- FHWA/NJDOT Standards
- Traffic
- Right of Way
- Access
- Drainage
- Utilities
- Constructability
- Environmental
- Cost
- Develop full range of alternatives

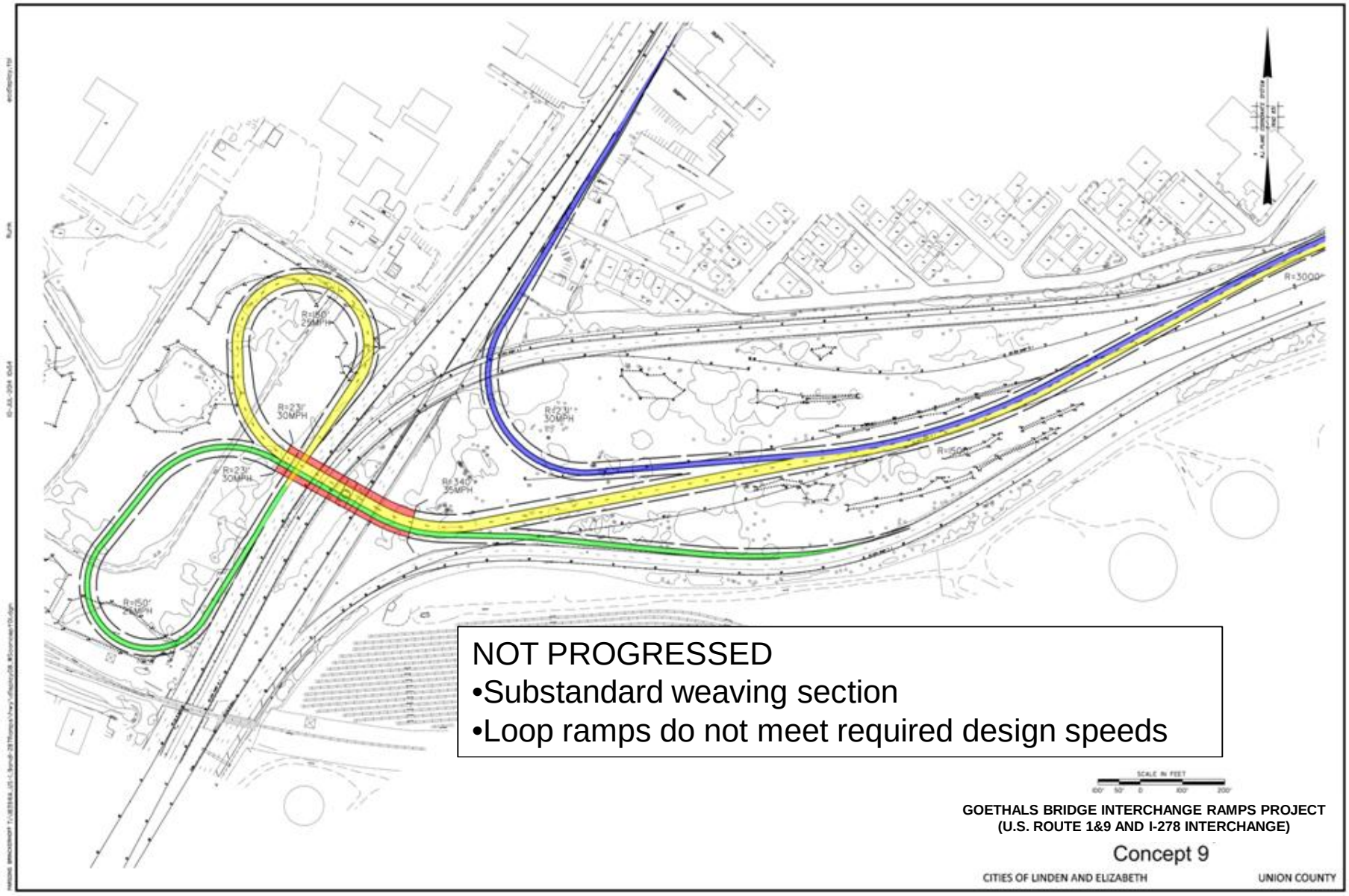
Alternatives Screening Results

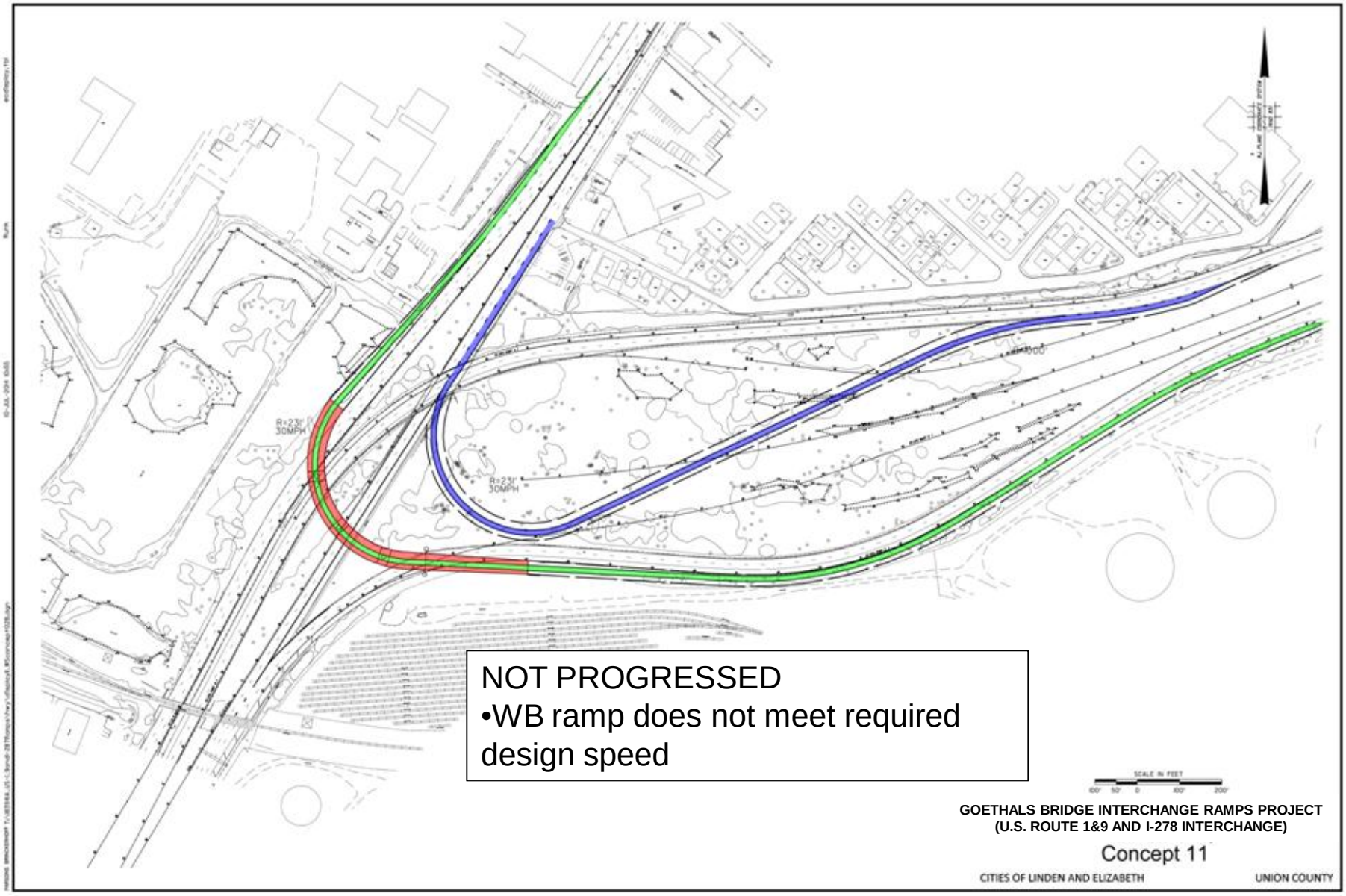
- 13 Concepts developed
- 4 Concepts were not advanced due to fatal flaws
- 9 Concepts advanced

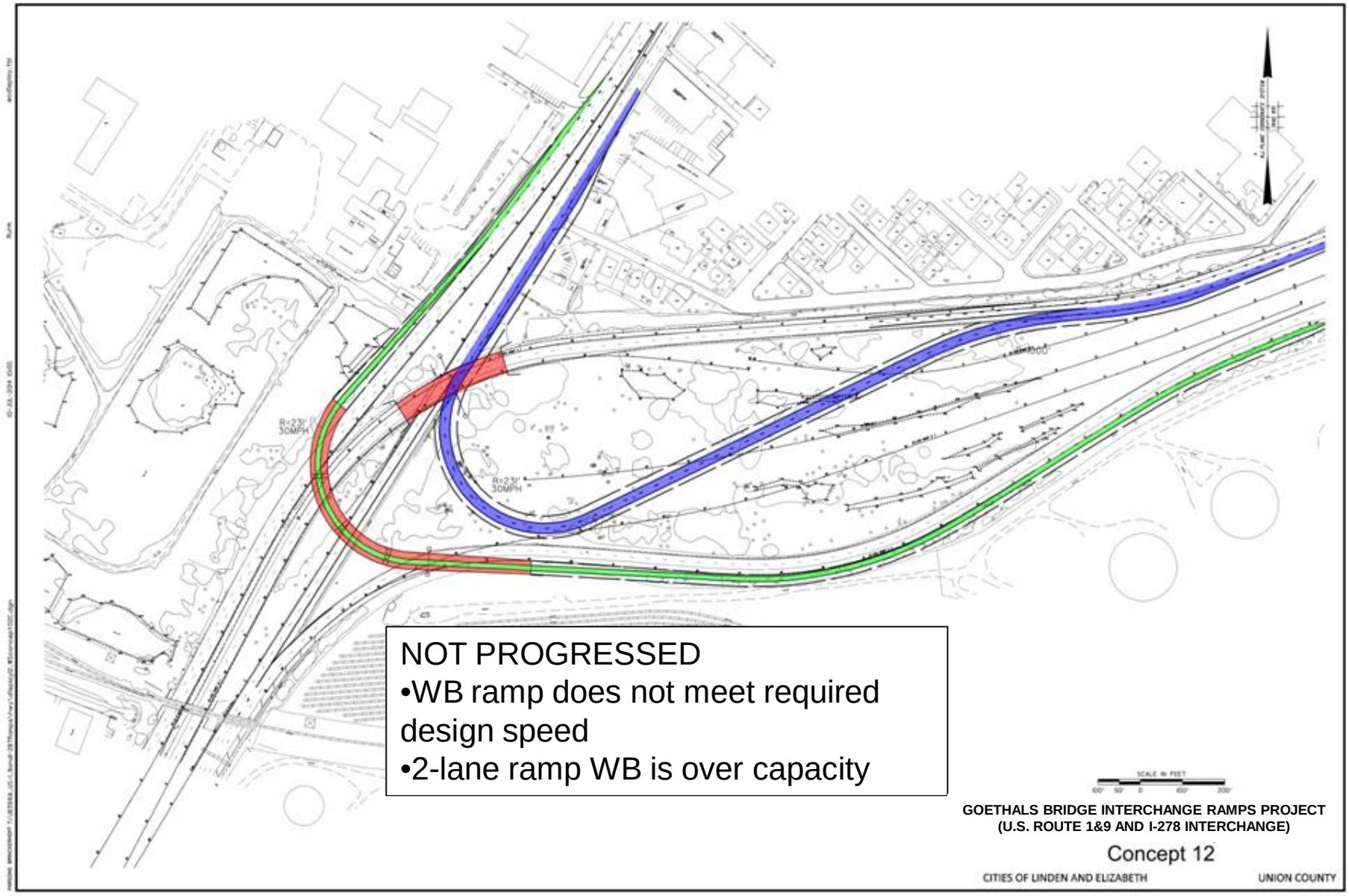
Alternatives Screening (Tier 1)

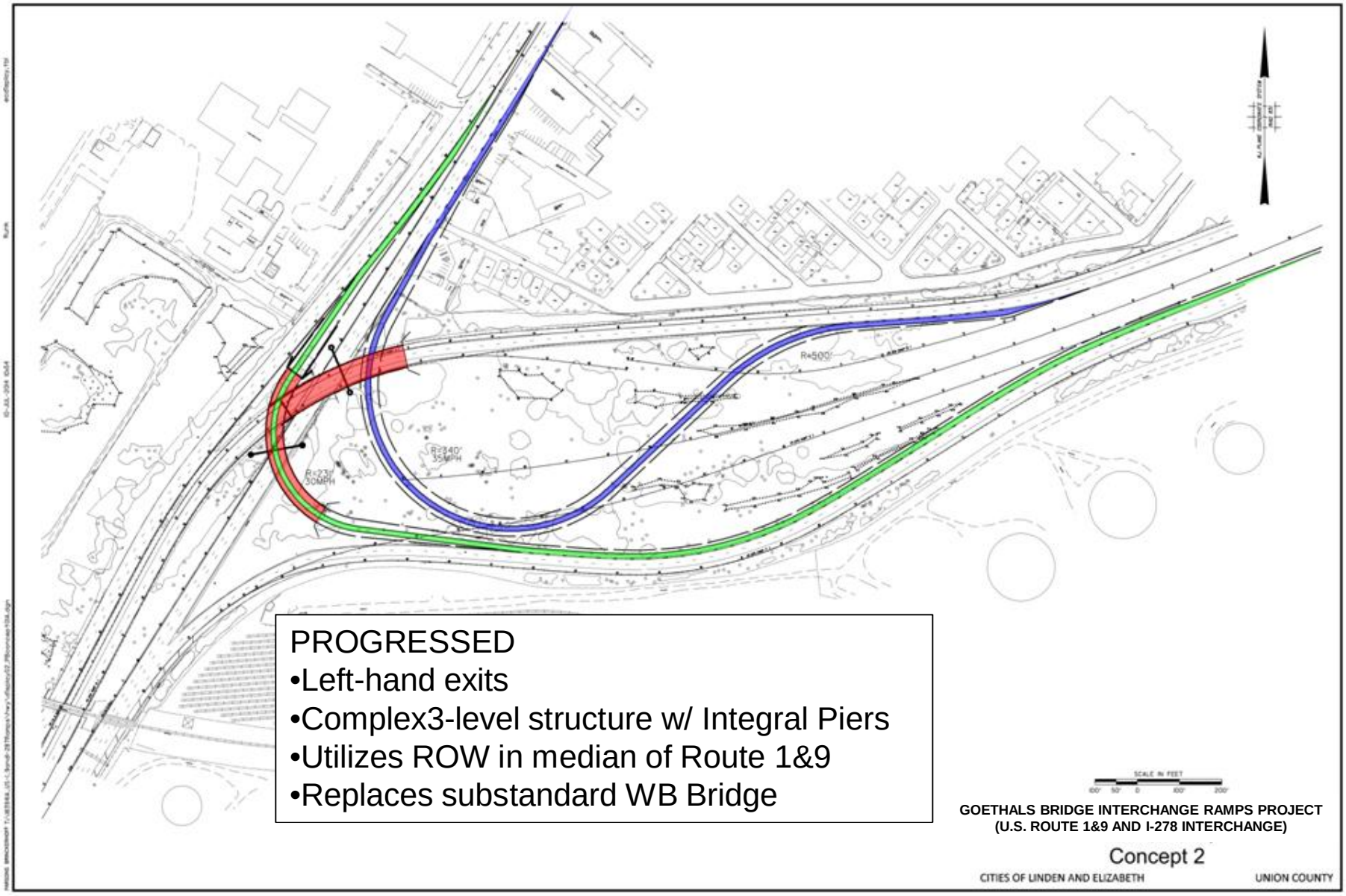
- Full and direct ramp connections
- Integrates within transportation network
- Has independent utility
- Meets design standards
- Sufficient capacity
- Safe operation with mixed traffic
- Diverts traffic from local roadways


R=231'
30MPH
R=1000'
NOT PROGRESSED
•WB ramp does not meet required design speed
SCALE IN FEET
100' 50' 0 100' 200'
GOETHALS BRIDGE INTERCHANGE RAMPS PROJECT
(U.S. ROUTE 1&9 AND I-278 INTERCHANGE)
Concept 1
CITIES OF LINDEN AND ELIZABETH
UNION COUNTY

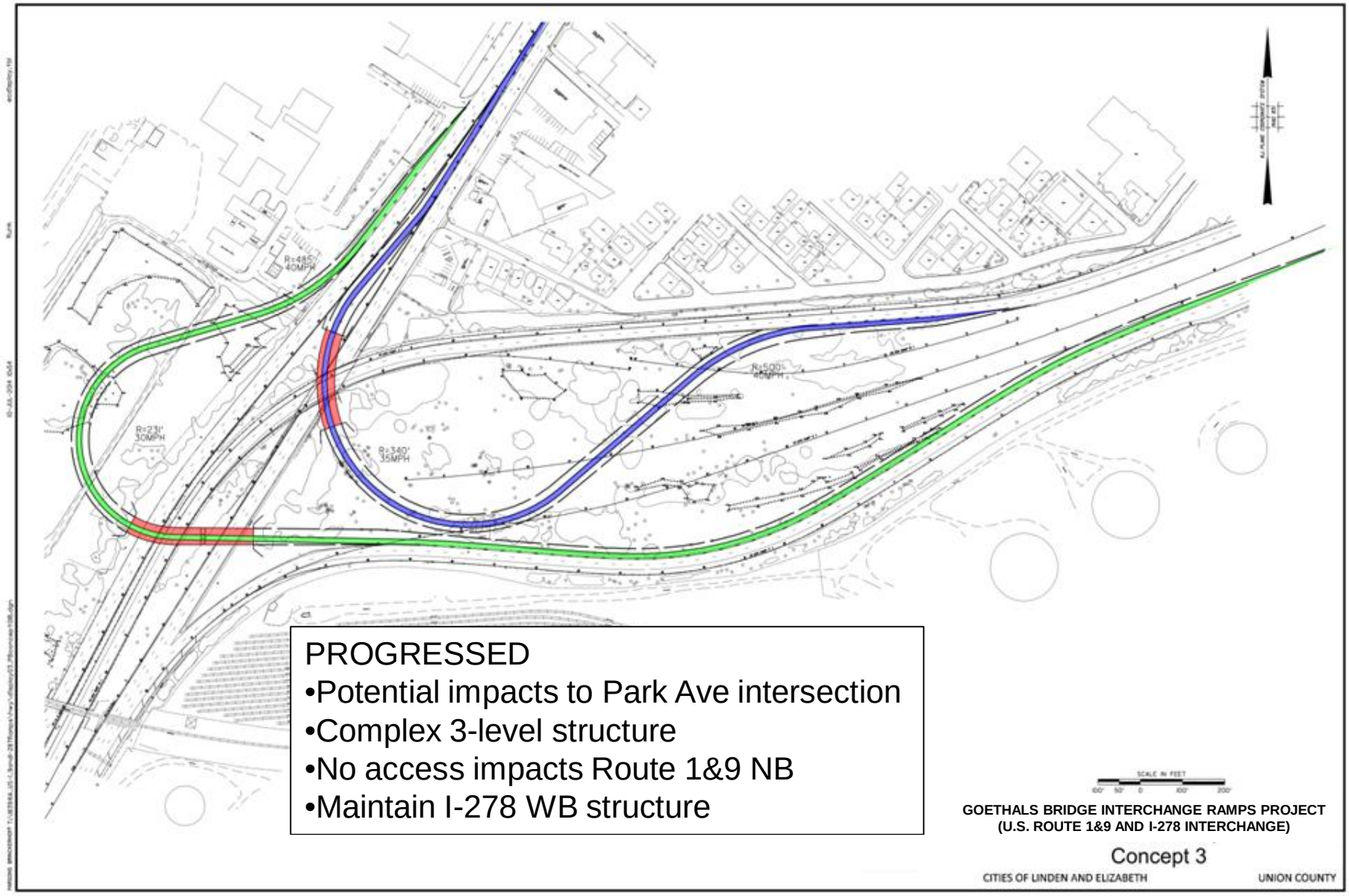

R=3000'
R=150'
25MPH
R=230'
30MPH
R=230'
30MPH
R=340'
35MPH
R=230'
30MPH
R=150'
25MPH
R=500'
NOT PROGRESSED
•Substandard weaving section
•Loop ramps do not meet required design speeds
SCALE IN FEET
GOETHALS BRIDGE INTERCHANGE RAMPS PROJECT
(U.S. ROUTE 1&9 AND I-278 INTERCHANGE)
Concept 9
CITIES OF LINDEN AND ELIZABETH
UNION COUNTY

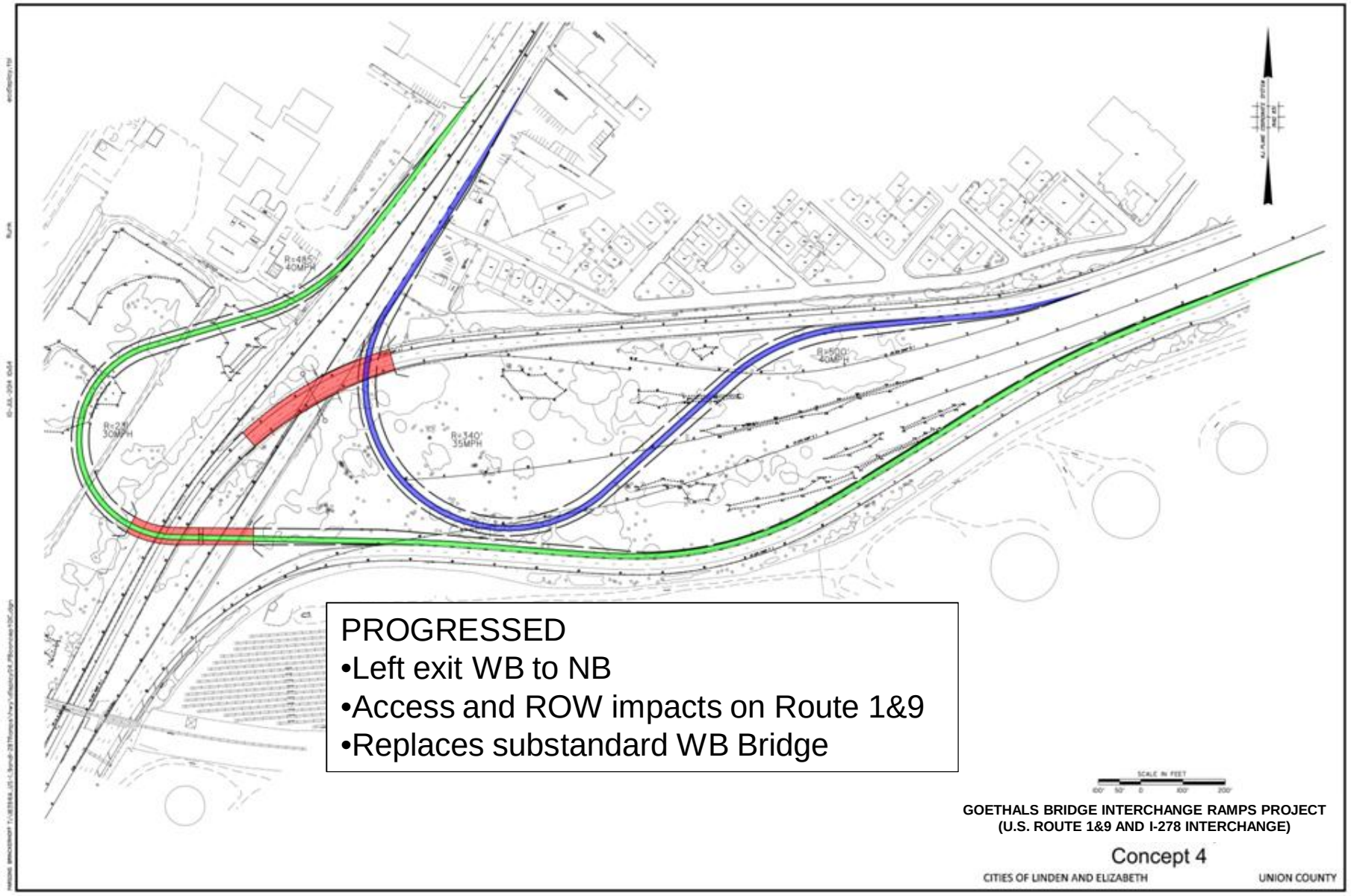

R=23'
30MPH
R=23'
30MPH
NOT PROGRESSED
•WB ramp does not meet required design speed
SCALE IN FEET
GOETHALS BRIDGE INTERCHANGE RAMPS PROJECT
(U.S. ROUTE 1&9 AND I-278 INTERCHANGE)
Concept 11
CITIES OF LINDEN AND ELIZABETH
UNION COUNTY

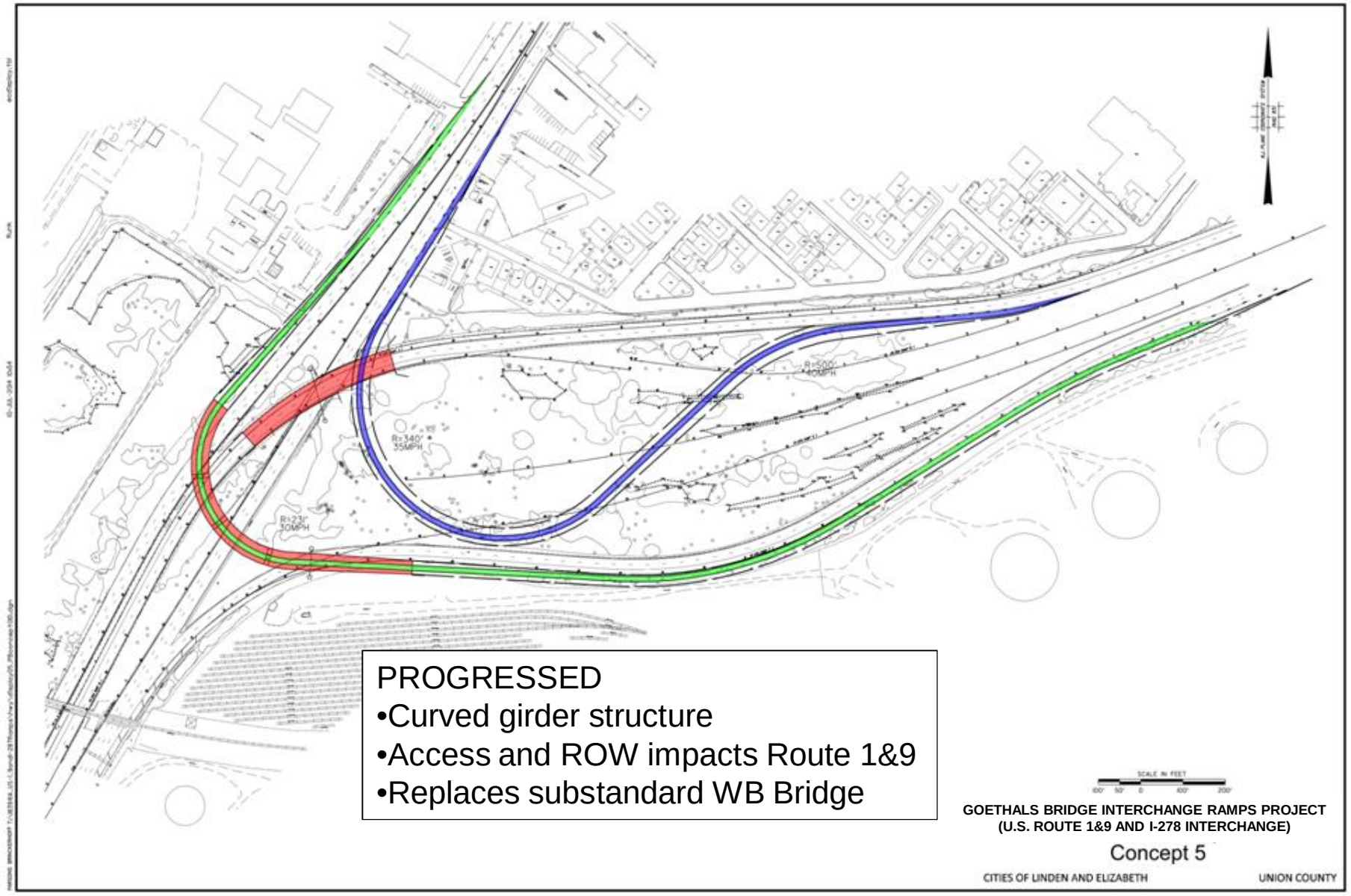

NOT PROGRESSED
•WB ramp does not meet required design speed
•2-lane ramp WB is over capacity
GOETHALS BRIDGE INTERCHANGE RAMPS PROJECT
(U.S. ROUTE 1&9 AND I-278 INTERCHANGE)
Concept 12
CITIES OF LINDEN AND ELIZABETH
UNION COUNTY



PROGRESSED
- Left-hand exits
- Complex3-level structure w/ Integral Piers
- Utilizes ROW in median of Route 1&9
- Replaces substandard WB Bridge


R=485'
40MPH
R=231'
30MPH
R=340'
35MPH
R=500'
40MPH
PROGRESSED
•Potential impacts to Park Ave intersection
•Complex 3-level structure
•No access impacts Route 1&9 NB
•Maintain I-278 WB structure
SCALE IN FEET
GOETHALS BRIDGE INTERCHANGE RAMPS PROJECT
(U.S. ROUTE 1&9 AND I-278 INTERCHANGE)
Concept 3
CITIES OF LINDEN AND ELIZABETH
UNION COUNTY


PROGRESSED
•Left exit WB to NB
•Access and ROW impacts on Route 1&9
•Replaces substandard WB Bridge
GOETHALS BRIDGE INTERCHANGE RAMPS PROJECT
(U.S. ROUTE 1&9 AND I-278 INTERCHANGE)
Concept 4
CITIES OF LINDEN AND ELIZABETH
UNION COUNTY



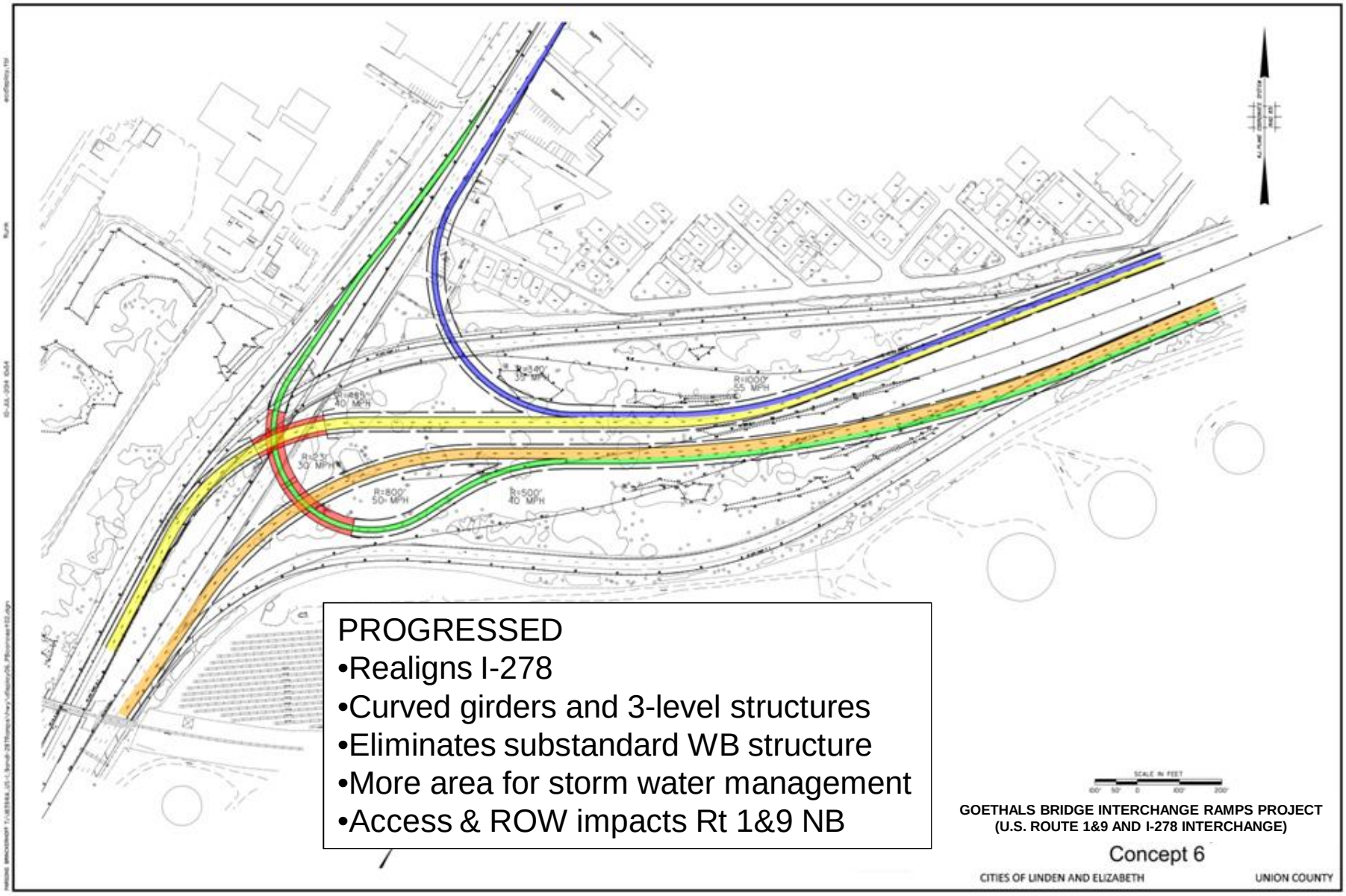
PROGRESSED
- Curved girder structure
- Access and ROW impacts Route 1&9
- Replaces substandard WB Bridge

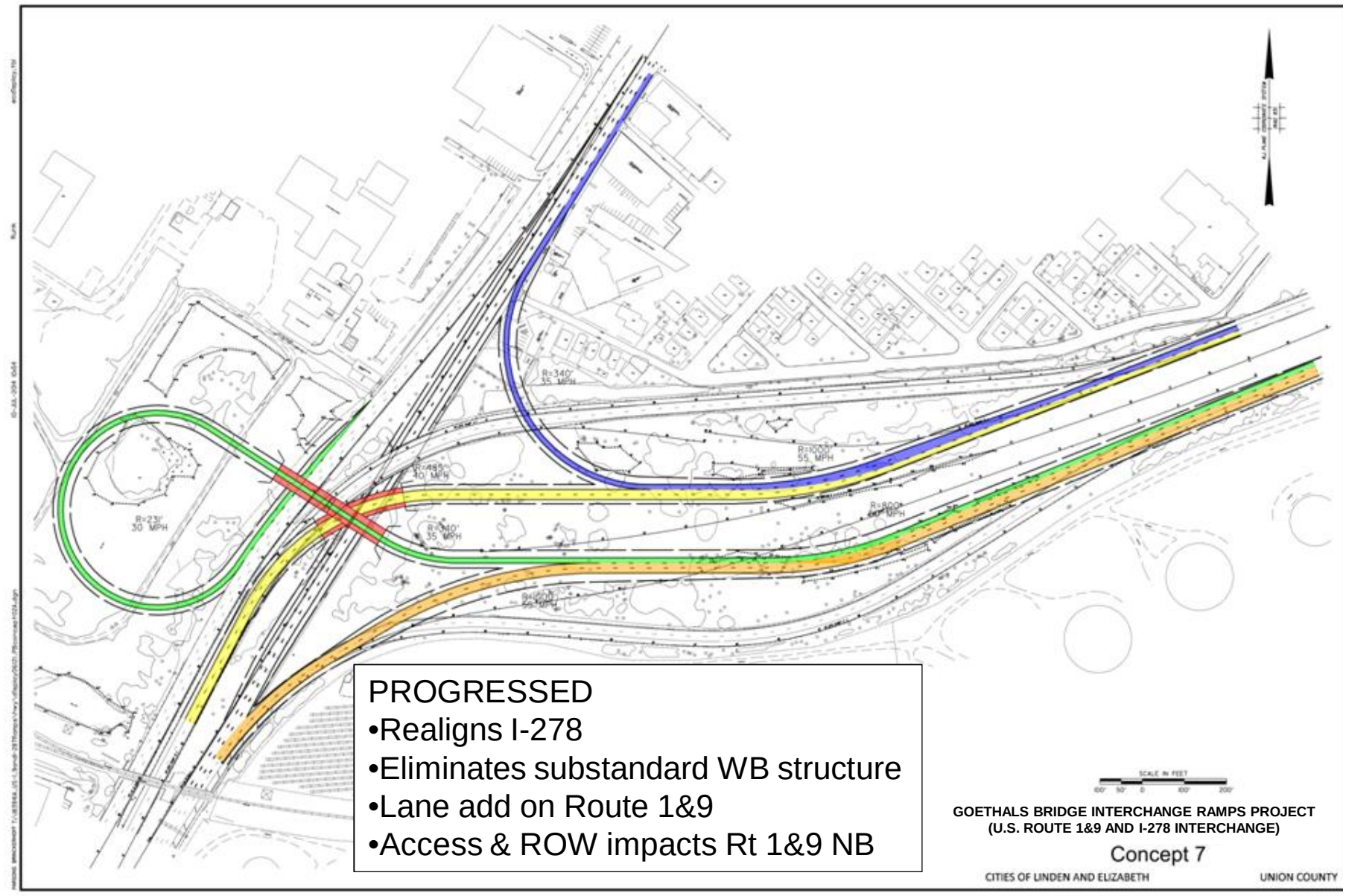
SCALE IN FEET

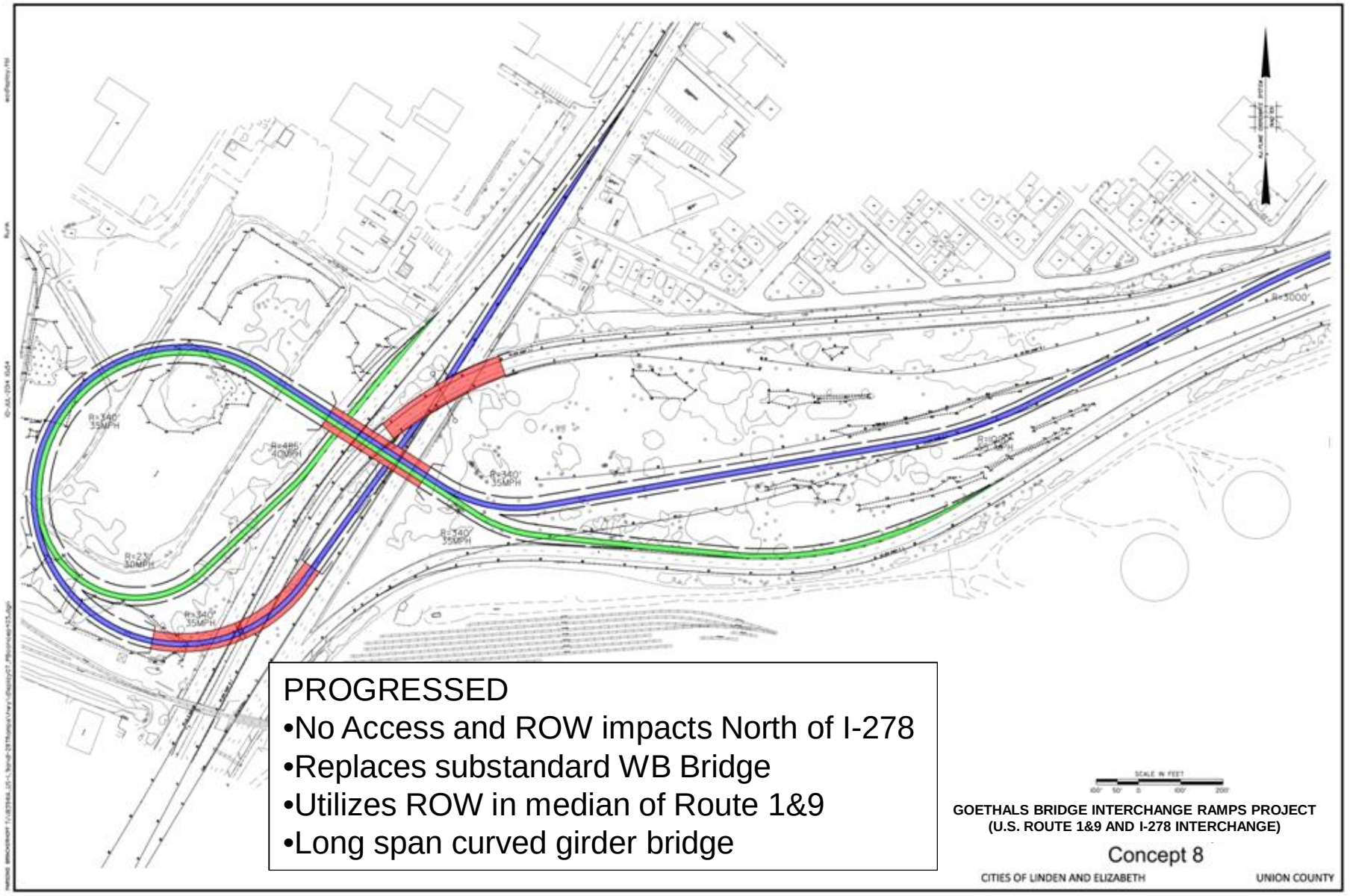
GOETHALS BRIDGE INTERCHANGE RAMPS PROJECT
(U.S. ROUTE 1&9 AND I-278 INTERCHANGE)

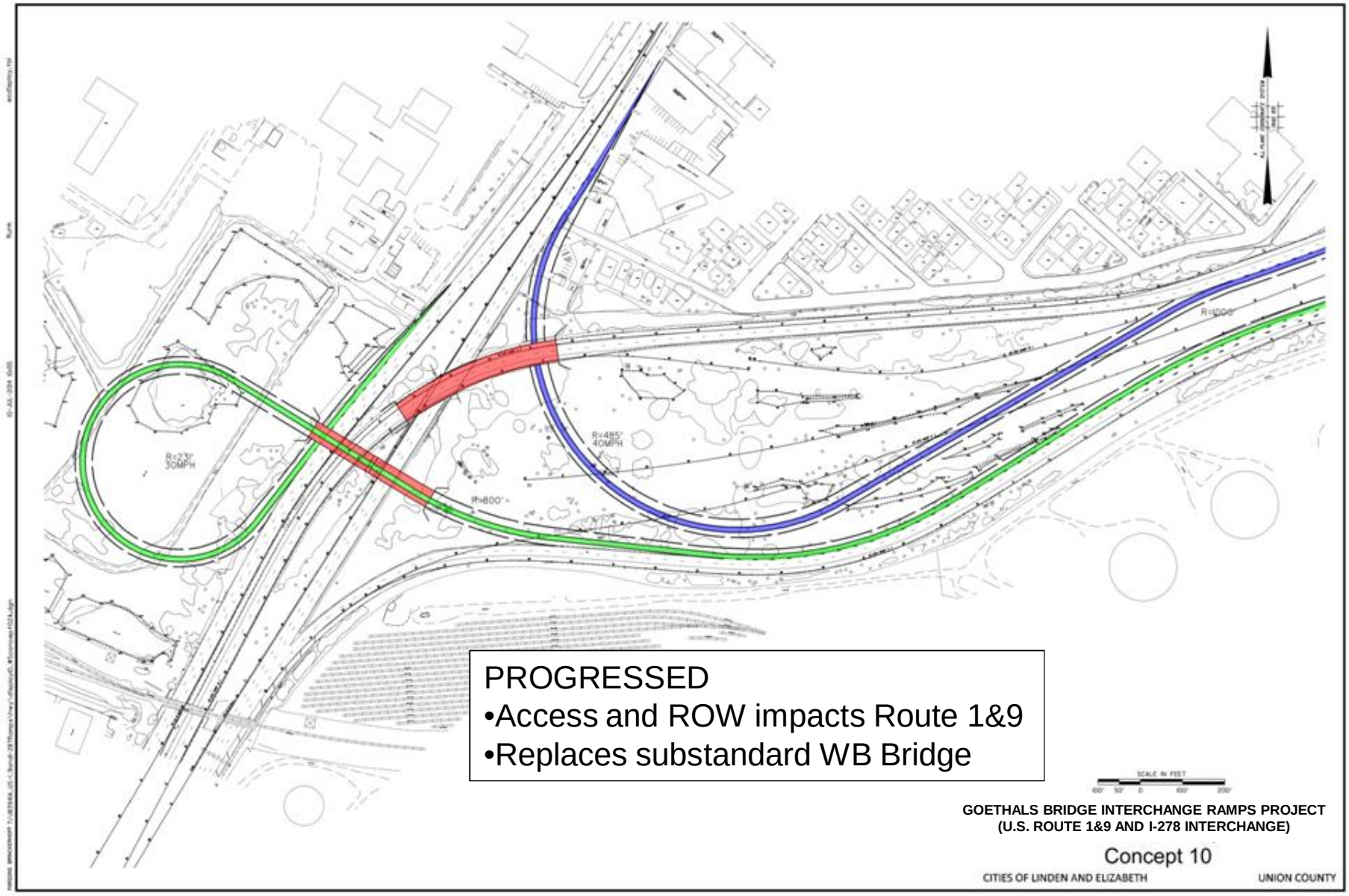
Concept 5

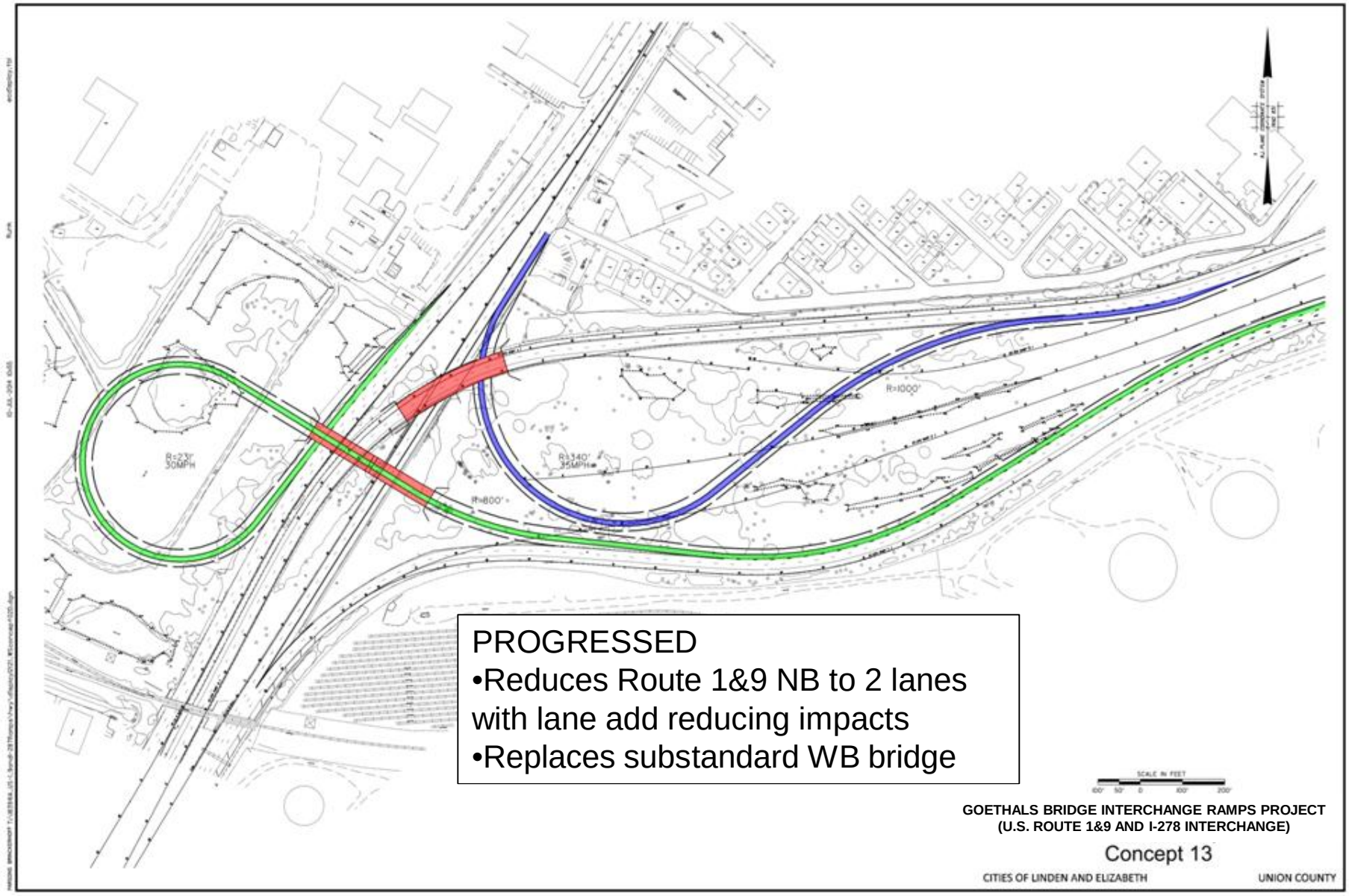
CITIES OF LINDEN AND ELIZABETH — UNION COUNTY


PROGRESSED
•Realigns I-278
•Curved girders and 3-level structures
•Eliminates substandard WB structure
•More area for storm water management
•Access & ROW impacts Rt 1&9 NB
GOETHALS BRIDGE INTERCHANGE RAMPS PROJECT
(U.S. ROUTE 1&9 AND I-278 INTERCHANGE)
Concept 6
CITIES OF LINDEN AND ELIZABETH
UNION COUNTY


PROGRESSED
•Realigns I-278
•Eliminates substandard WB structure
•Lane add on Route 1&9
•Access & ROW impacts Rt 1&9 NB
GOETHALS BRIDGE INTERCHANGE RAMPS PROJECT
(U.S. ROUTE 1&9 AND I-278 INTERCHANGE)
Concept 7
CITIES OF LINDEN AND ELIZABETH
UNION COUNTY


PROGRESSED
•No Access and ROW impacts North of I-278
•Replaces substandard WB Bridge
•Utilizes ROW in median of Route 1&9
•Long span curved girder bridge
GOETHALS BRIDGE INTERCHANGE RAMPS PROJECT
(U.S. ROUTE 1&9 AND I-278 INTERCHANGE)
Concept 8
CITIES OF LINDEN AND ELIZABETH
UNION COUNTY


R=237'
30MPH
R=485'
40MPH
R=800'
R=1000'
PROGRESSED
•Access and ROW impacts Route 1&9
•Replaces substandard WB Bridge
SCALE IN FEET
GOETHALS BRIDGE INTERCHANGE RAMPS PROJECT
(U.S. ROUTE 1&9 AND I-278 INTERCHANGE)
Concept 10
CITIES OF LINDEN AND ELIZABETH
UNION COUNTY


PROGRESSED
•Reduces Route 1&9 NB to 2 lanes with lane add reducing impacts
•Replaces substandard WB bridge
GOETHALS BRIDGE INTERCHANGE RAMPS PROJECT
(U.S. ROUTE 1&9 AND I-278 INTERCHANGE)
Concept 13
CITIES OF LINDEN AND ELIZABETH
UNION COUNTY

Alternatives Screening (Tier 2)

- Traffic Impacts
- Wetlands
- Floodplains
- Species/Habitat
- Historic and Archaeological
- Parklands and Open Space
- Property Acquisition
- Utilities
- Environmental Justice
- Contaminated/Hazardous Materials
- Constructability
- Design Exceptions
- Permits

What's Next?

- Obtain input from stakeholders
- Perform screening analysis
- Submit required FHWA Interchange Modification Report
- Refine concept development
- Conduct third TAC & public meetings
- Conduct environmental assessment

Timeline

- Jun 2015 Complete Conceptual Design
- Oct 2015 Complete Environmental Assessment
- Start Final Design
- Complete Design
- Start Construction
- Complete Construction

Q & A / Discussion

THANK YOU