

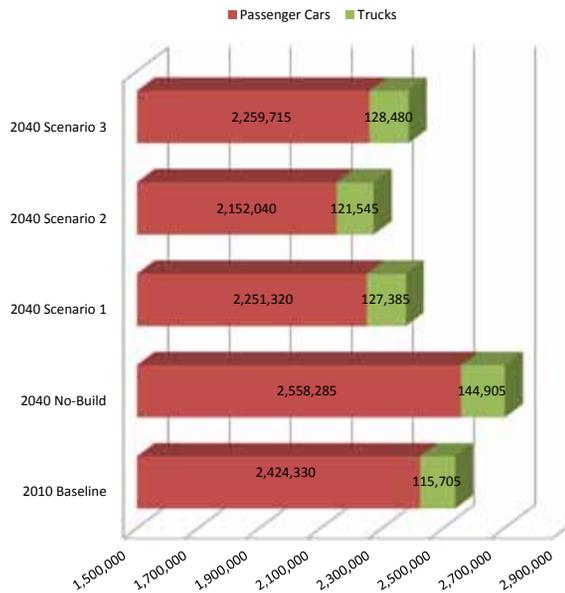
# 3.5 Scenario Analysis

**Economic Vitality** – The evaluation of each scenario’s impact on economic vitality included measures addressing overall user benefits in terms of annual delay and equivalent dollar values, as well as specific “time-to-market” assessments in terms of truck travel time.

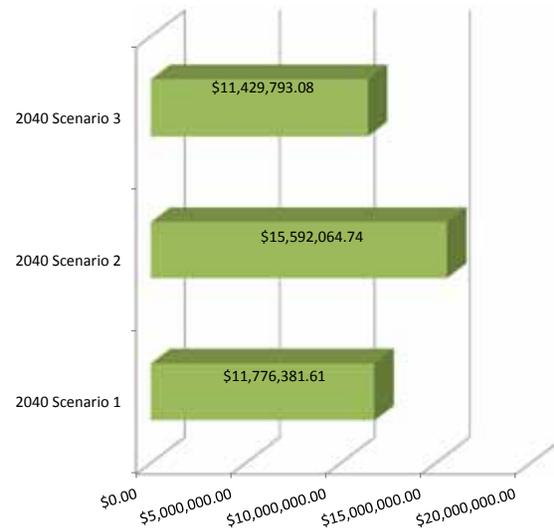
## Overall User Benefits

Overall user benefits included a comparison of the total hours of user delay expected during the course of a year for each of the project scenarios (*Exhibit 3.5.1*) and the equivalent user benefits, expressed as the savings in user travel costs between each build scenario and the no-build scenario (*Exhibit 3.5.2*).

*Exhibit 3.5.1 – Overall Network Vehicle Hours of Delay (Hours per Year)*



*Exhibit 3.5.2 – 2040 Automobile and Truck User Benefits (Dollars per Year)*



## System Wide Performance Measures

While the Decision Lens software objectively evaluates each project candidate on its own merit, broader system-wide performance measures were assessed using scenario analysis and the County’s revised Travel Demand Model (TDM) to evaluate how well various groups of projects work together to achieve the County’s goals and objectives.



### Time to Market

An assessment of “time-to-market” was made by estimating truck travel times in the TDM. Travel times were summarized for representative locations during the worst delay period (i.e., AM versus PM peak periods). Specific benchmarks (*Exhibit 3.5.3*) included:

- Truck Travel Time Contours to/from:
  - ◇ I-79 @ US 6N Interchange (*Exhibits 3.5.4 through 3.5.8*).
  - ◇ I-90 @ US 6N Interchange (*Exhibits 3.5.9 through 3.5.13*).
  - ◇ I-90 @ I-86 Interchange (*Exhibits 3.5.14 through 3.5.18*).

**Multimodal Transportation Safety** – Quantitative safety analyses were not conducted for each scenario since PennDOT manages a separate the Highway Safety Improvement Program which will assist the County in meeting its long term safety goals. All three build scenarios would improve safety by reducing congestion and improving the transportation network.

**Multimodal Transportation Security** – Quantitative security analyses were not conducted for each scenario since all three build scenarios included a countywide traffic signal emergency pre-emption program which will have the largest impact on countywide transportation security and emergency response. Scenario 2 improves transportation security more by eliminating traffic signal deficiencies along established detour routes with upgraded signal technology.

*Exhibit 3.5.3 – Representative Benchmark Locations for Various System Wide Performance Measures*

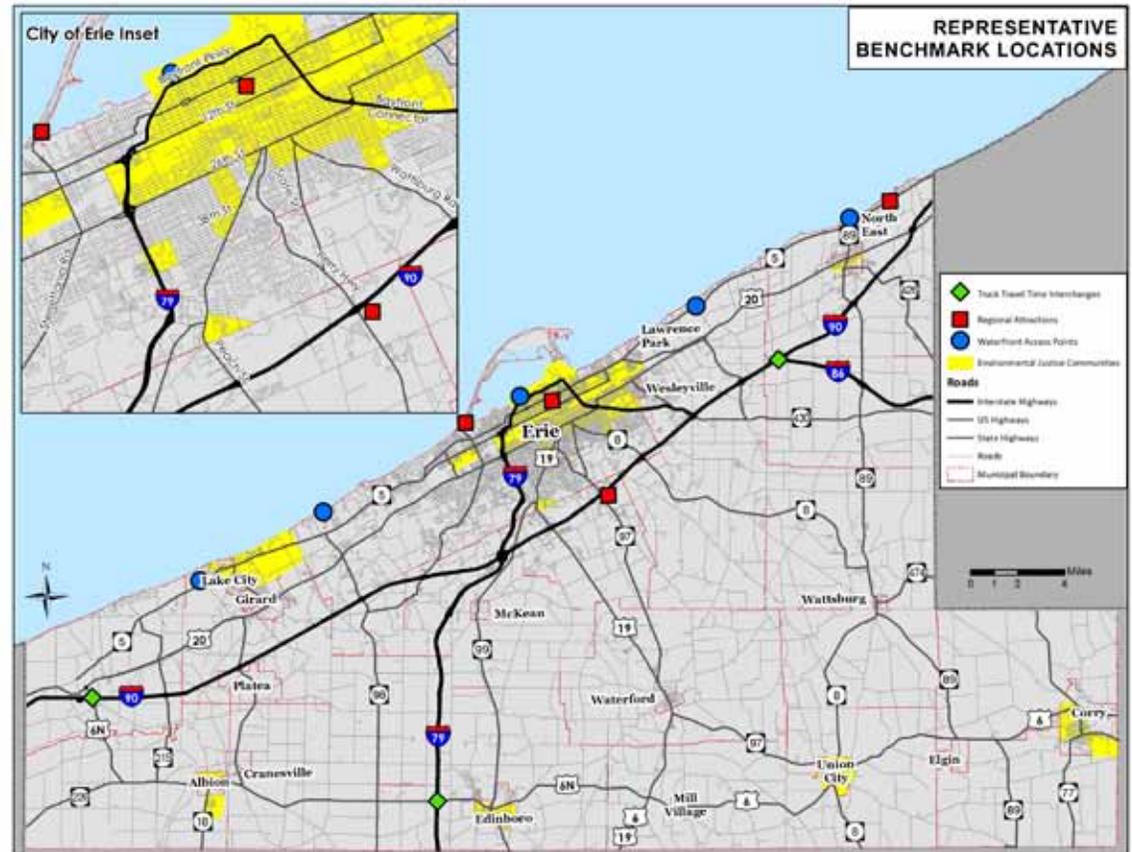
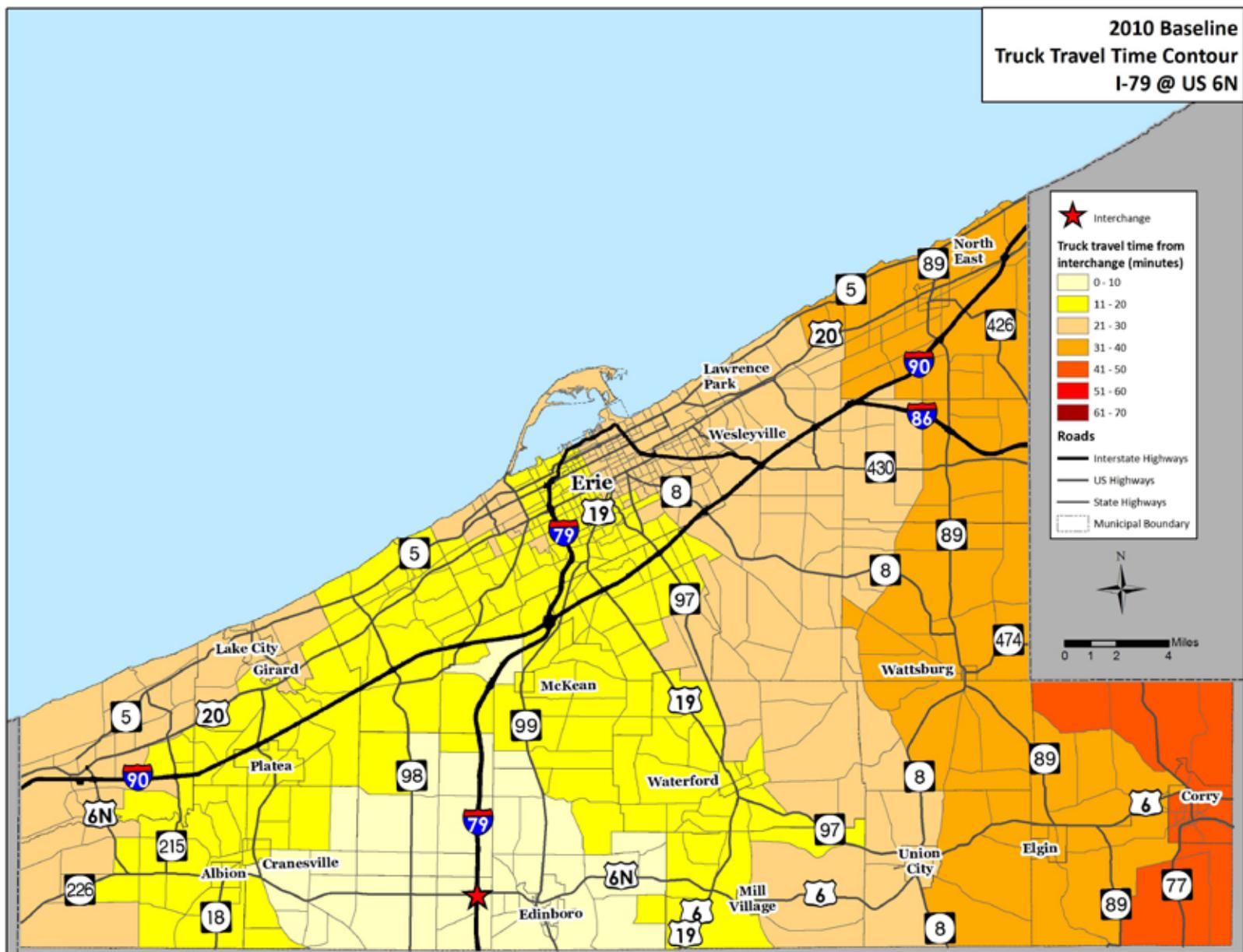


Exhibit 3.5.4 – 2010 Baseline Truck Travel Time Contour I-79 @ US 6N



• 1 PLAN INTRODUCTION

• 2 TRANSPORTATION SYSTEMS, TRENDS AND ISSUES

• 3 BLUEPRINT PLANNING

• 4 RECOMMENDATIONS AND IMPLEMENTATION



Exhibit 3.5.5 – 2040 No-Build Truck Travel Time Contour I-79 @ US 6N

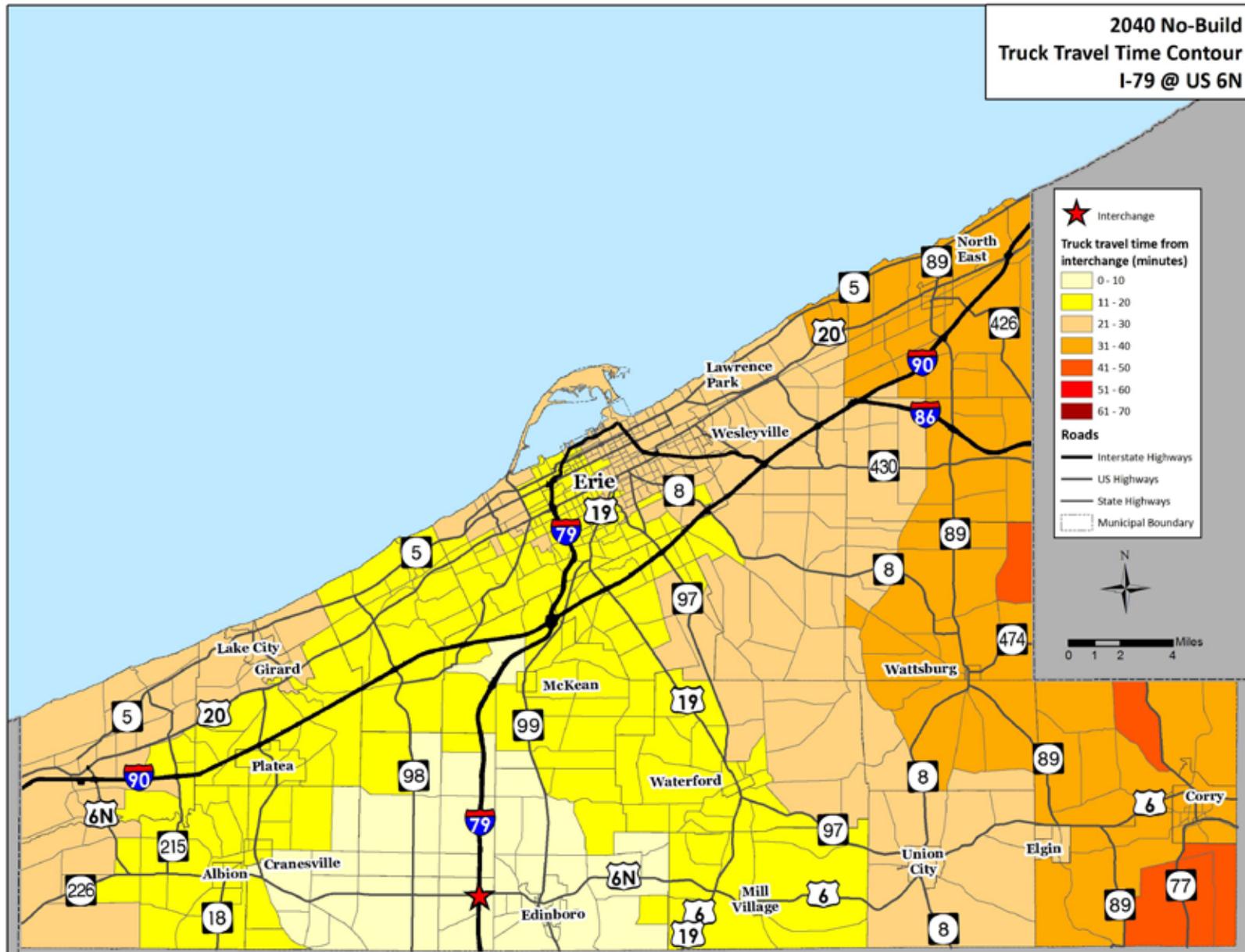
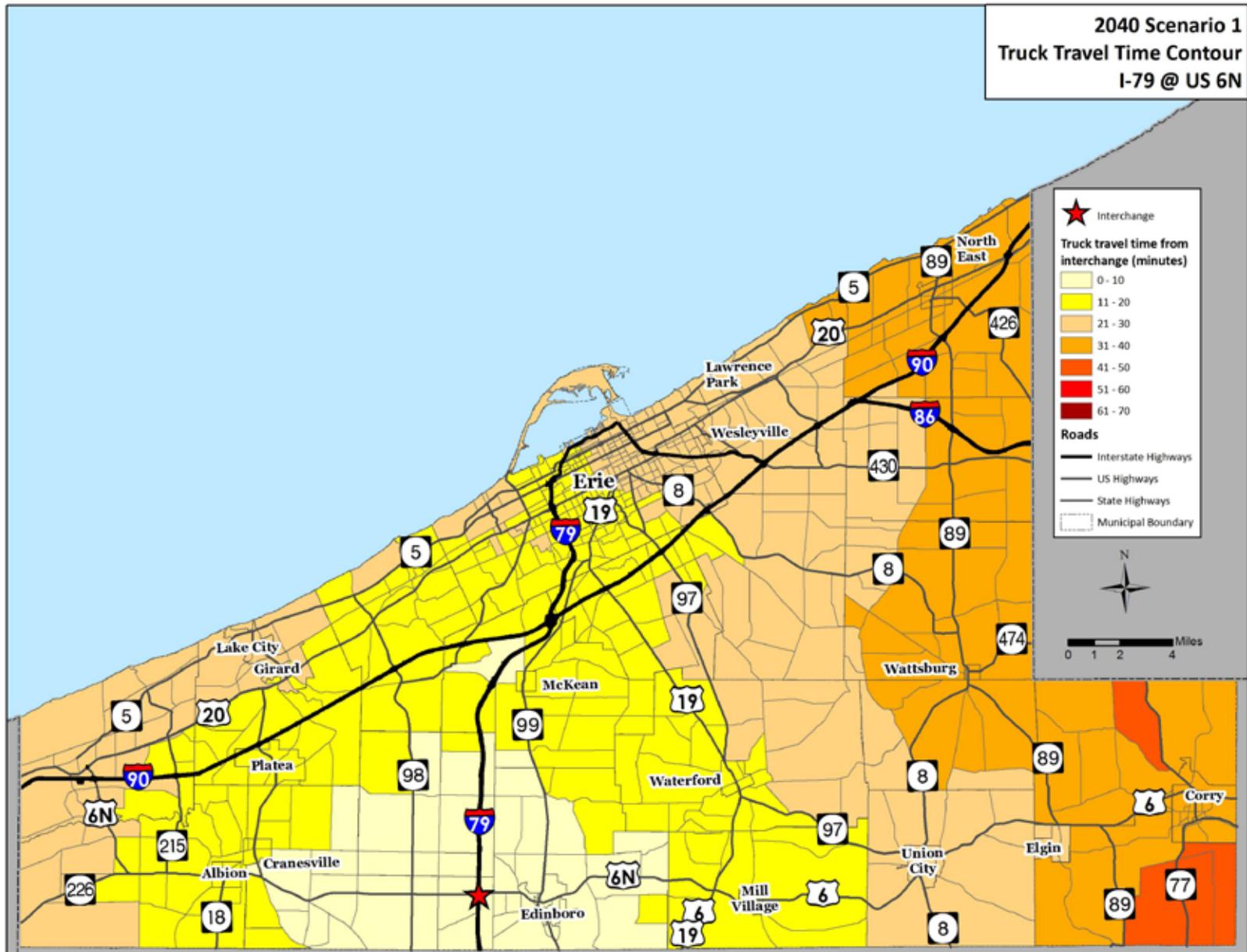


Exhibit 3.5.6 – 2040 Scenario 1 Truck Travel Time Contour I-79 @ US 6N



• 1 PLAN INTRODUCTION

• 2 TRANSPORTATION SYSTEMS, TRENDS AND ISSUES

• 3 BLUEPRINT PLANNING

• 4 RECOMMENDATIONS AND IMPLEMENTATION



Exhibit 3.5.7 – 2040 Scenario 2 Truck Travel Time Contour I-79 @ US 6N

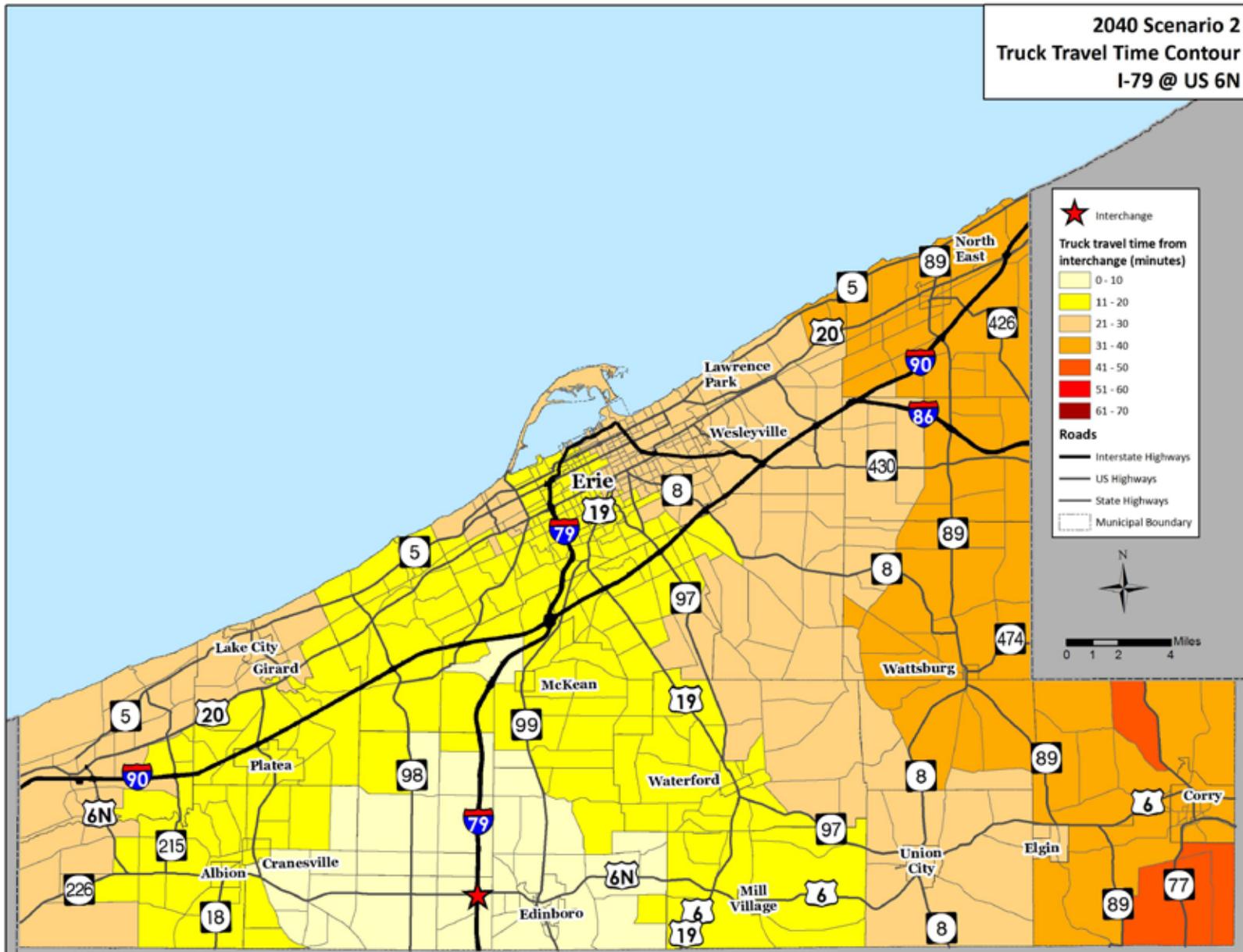
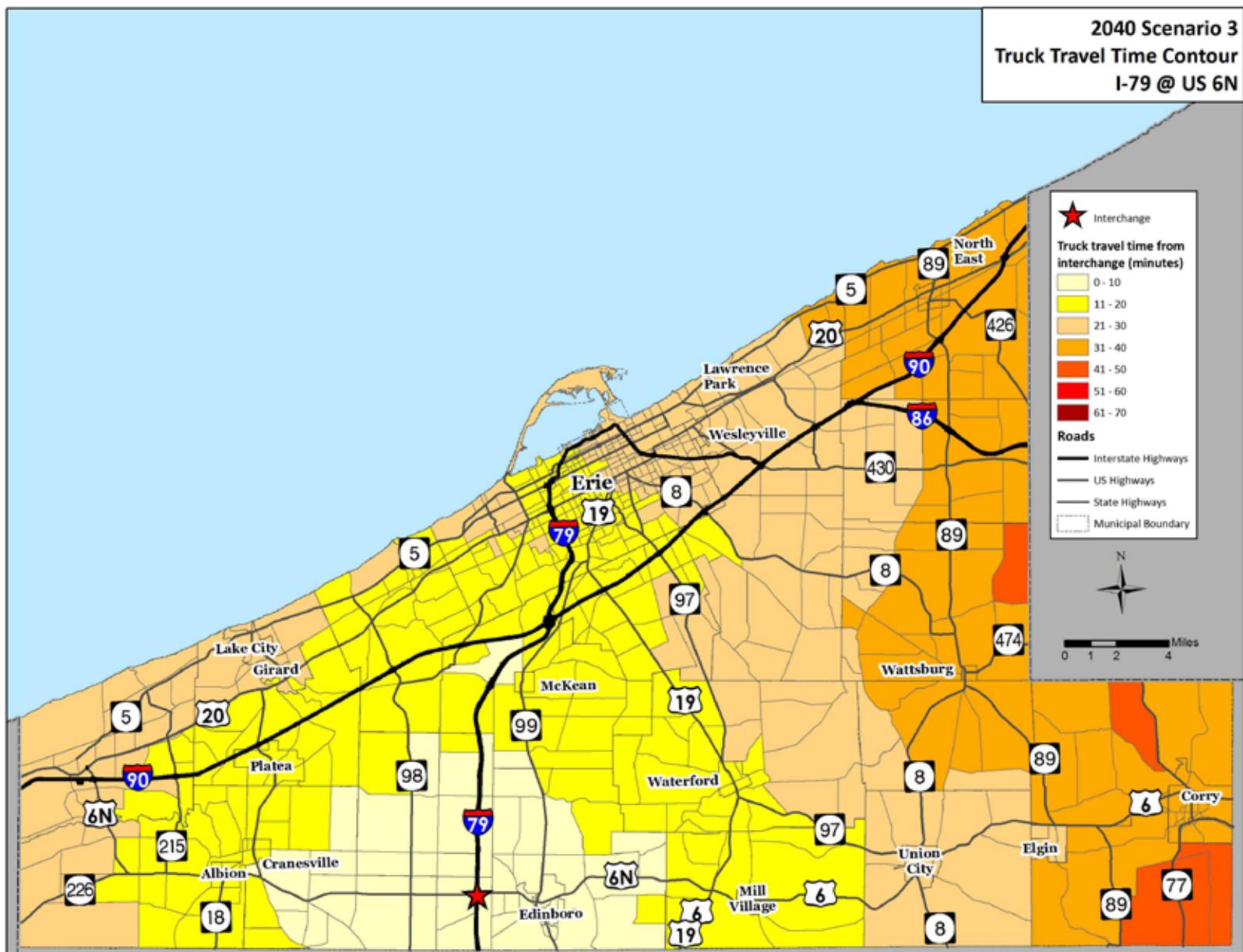


Exhibit 3.5.8 – 2040 Scenario 3 Truck Travel Time Contour I-79 @ US 6N



1 PLAN INTRODUCTION  
 2 TRANSPORTATION SYSTEMS, TRENDS AND ISSUES  
 3 BLUEPRINT PLANNING  
 4 RECOMMENDATIONS AND IMPLEMENTATION



Exhibit 3.5.9 – 2010 Baseline Truck Travel Time Contour I-90 @ US 6N

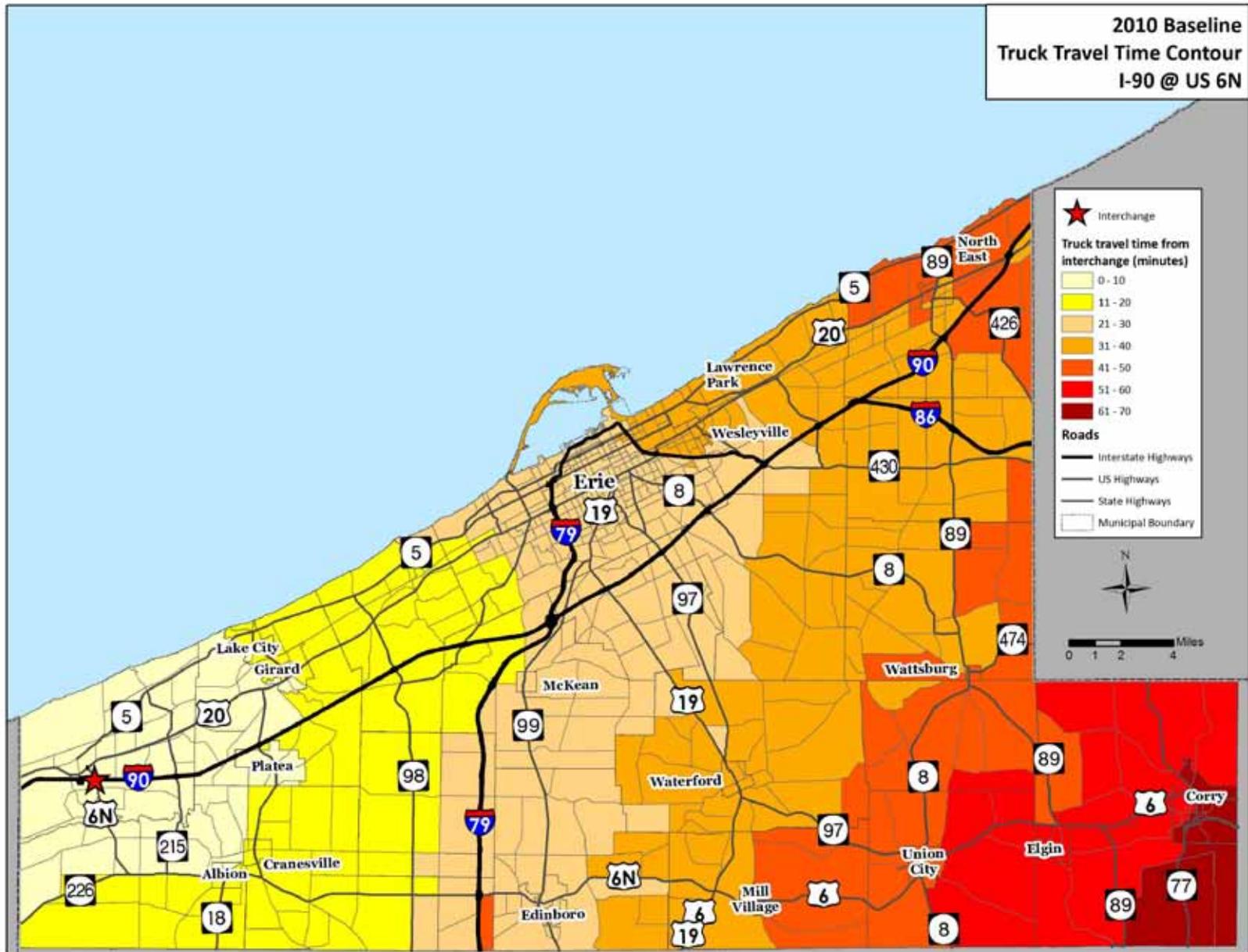




Exhibit 3.5.11 – 2040 Scenario 1 Truck Travel Time Contour I-90 @ US 6N

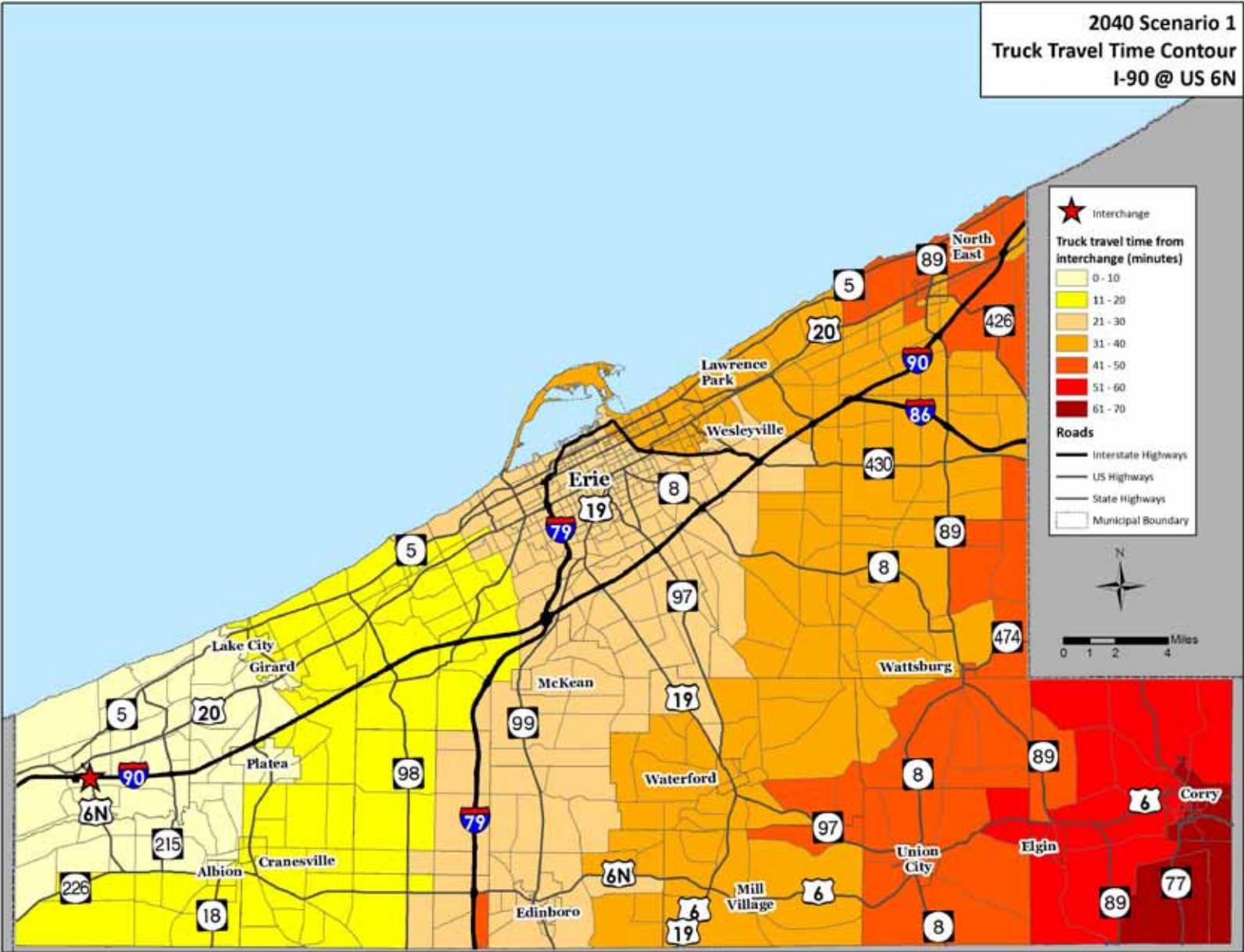


Exhibit 3.5.12 – 2040 Scenario 2 Truck Travel Time Contour I-90 @ US 6N

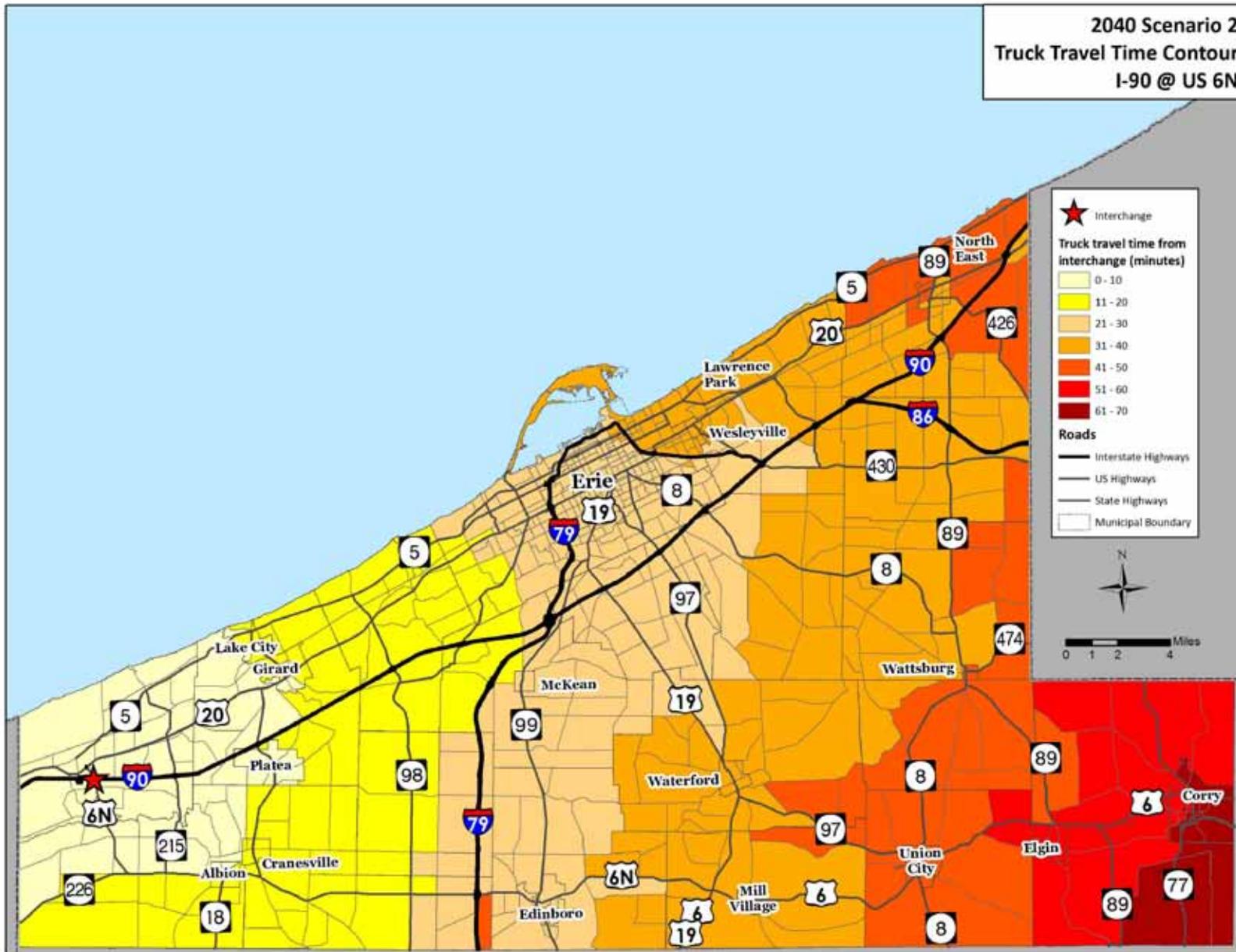


Exhibit 3.5.13 – 2040 Scenario 3 Truck Travel Time Contour I-90 @ US 6N

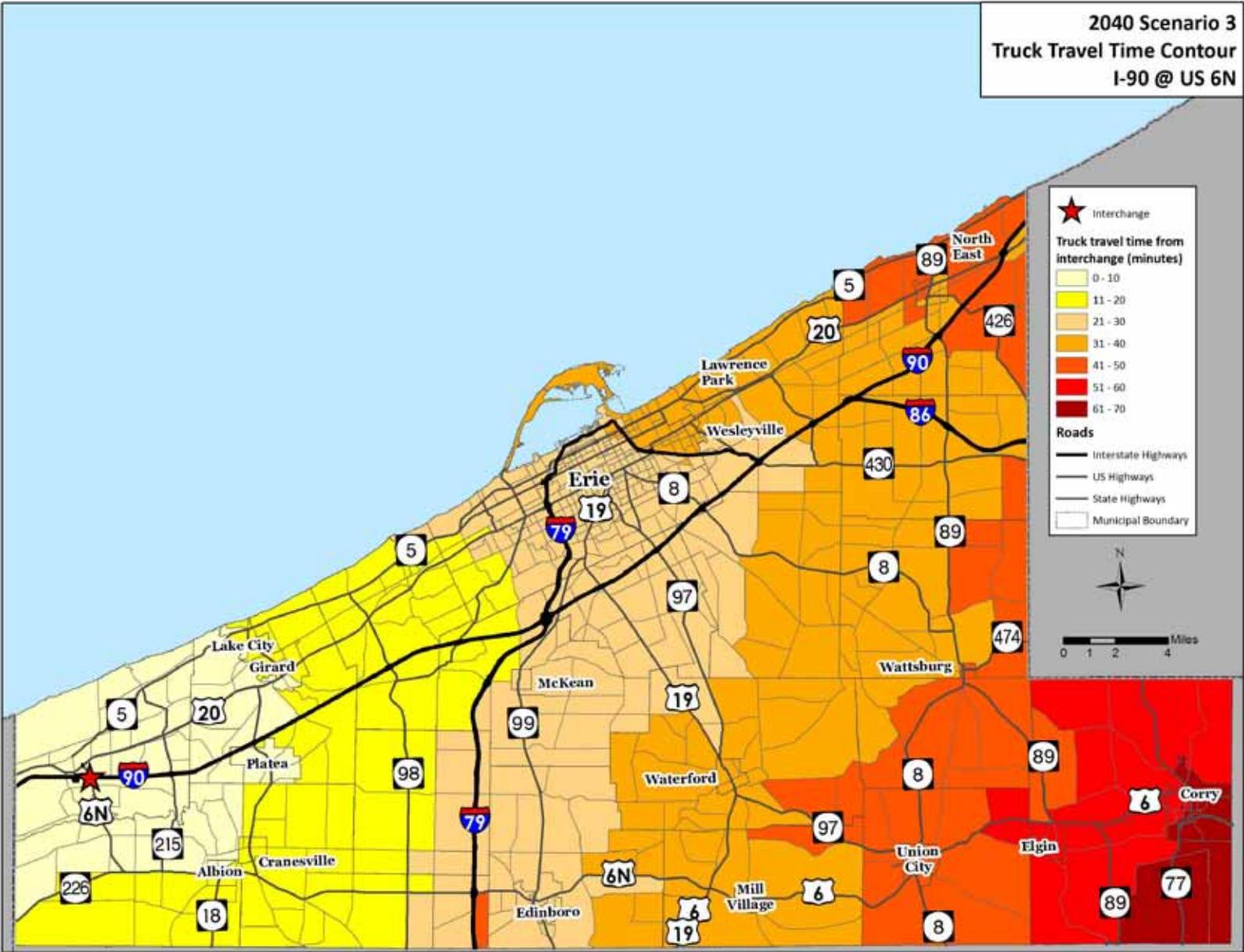
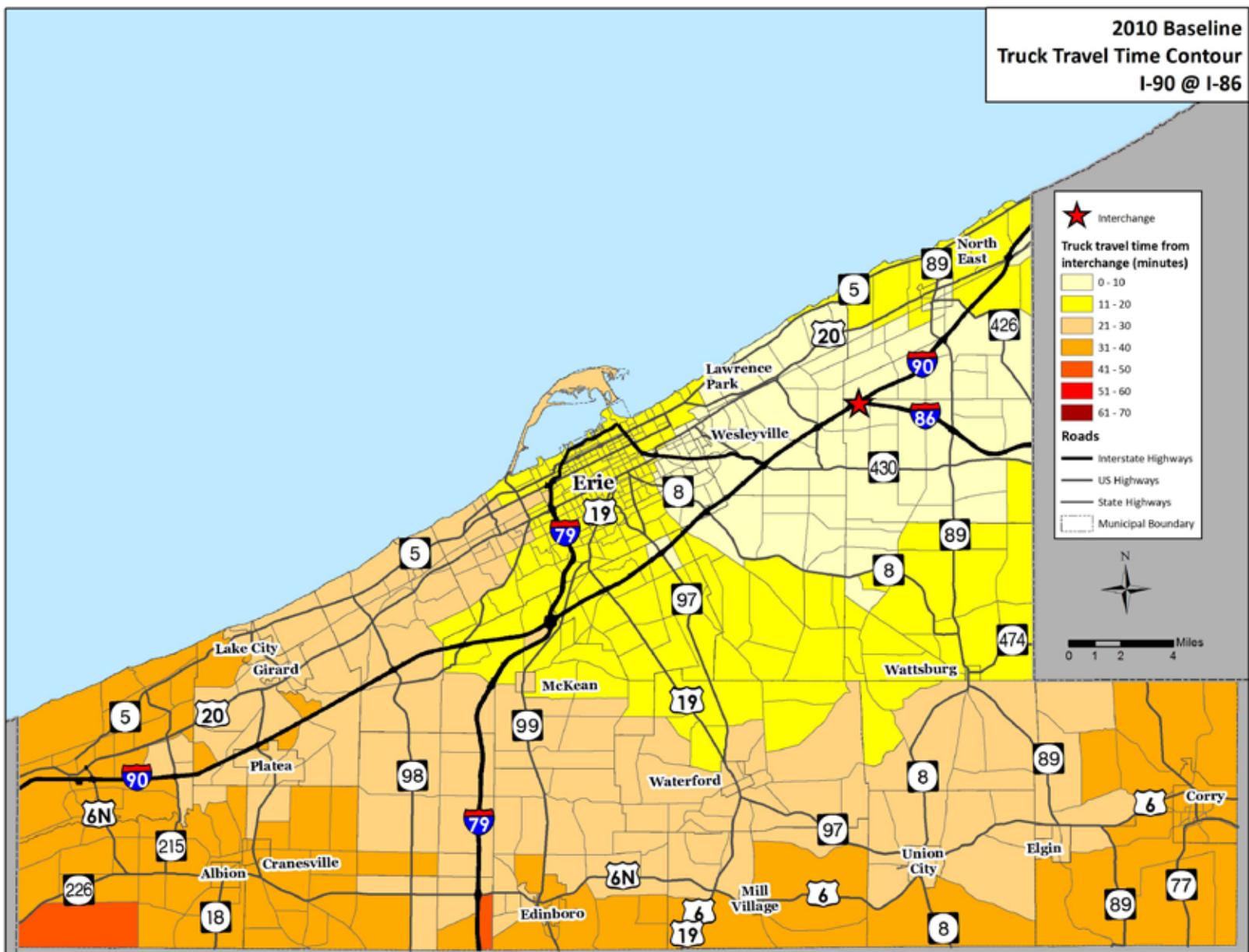


Exhibit 3.5.14 – 2010 Baseline Truck Travel Time Contour I-90 @ I-86



1 PLAN INTRODUCTION

2 TRANSPORTATION SYSTEMS, TRENDS AND ISSUES

3 BLUEPRINT PLANNING

4 RECOMMENDATIONS AND IMPLEMENTATION



Exhibit 3.5.15 – 2040 No-Build Truck Travel Time Contour I-90 @ I-86

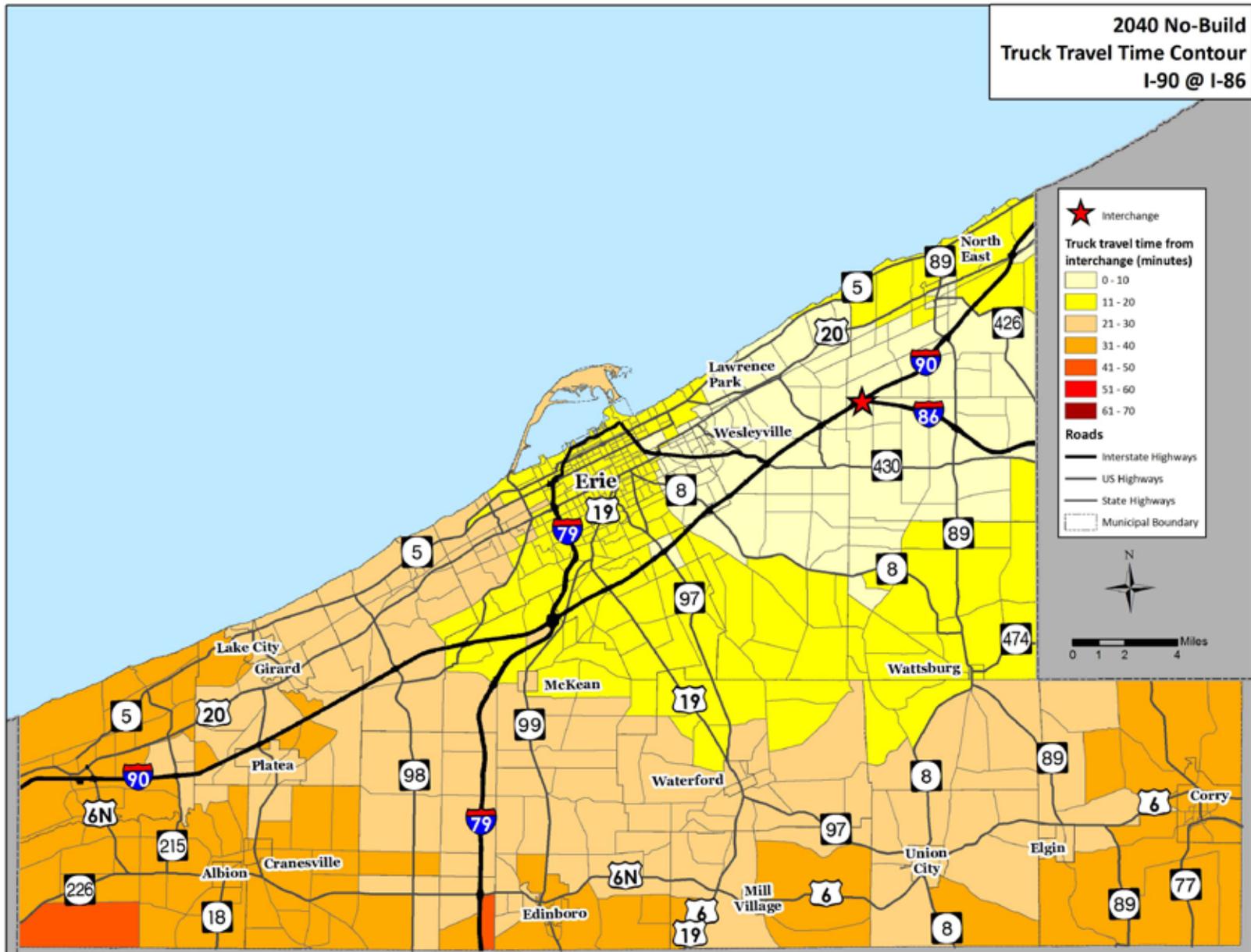




Exhibit 3.5.17 – 2040 Scenario 2 Truck Travel Time Contour I-90 @ US I-86

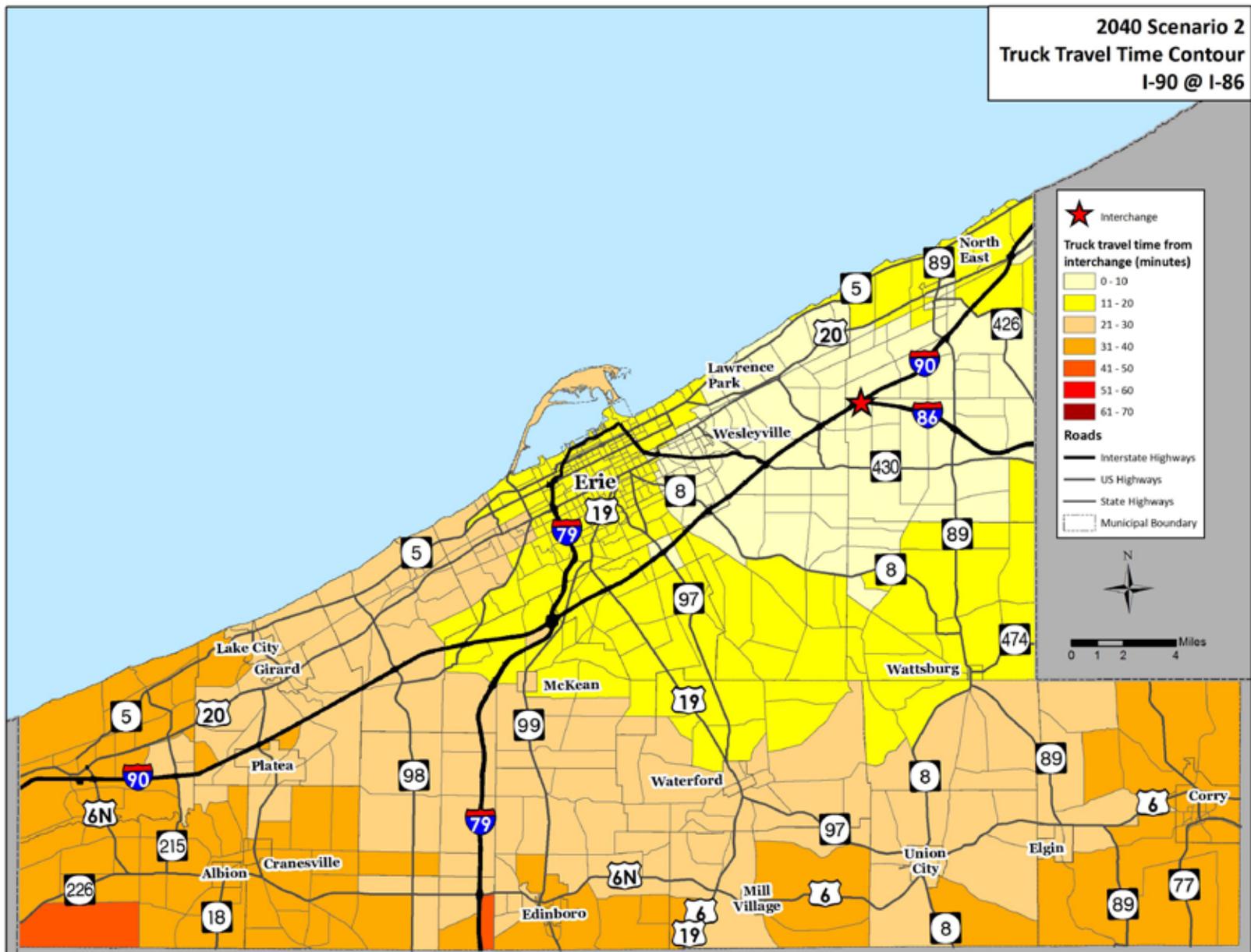
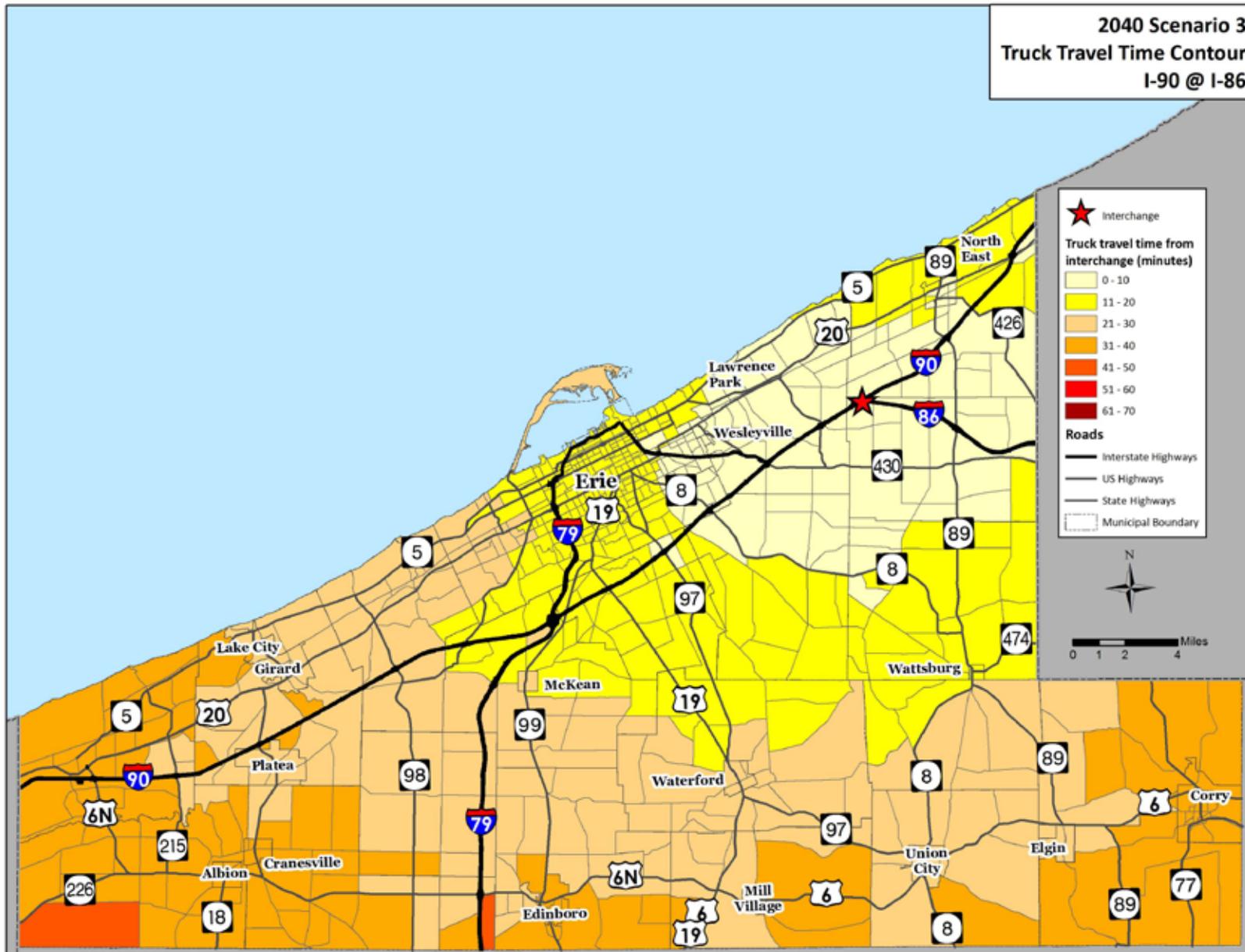


Exhibit 3.5.18 – 2040 Scenario 3 Truck Travel Time Contour I-90 @ I-86



**Multimodal Choices and Connections**– The evaluation of each scenario’s impact on multimodal choices and connections focused on the projected changes in transit ridership. Changes in transit ridership by scenario are tabulated based on results from the TDM (*Exhibit 3.5.19*).

**System Sustainability and Livability** – The evaluation of each scenario’s impact on system sustainability and livability included measures addressing access to regional attractions, Erie’s waterfront, or job centers.

*Regional Attraction Access*

As an assessment of recreational access, livability issues, or related economic benefits within Erie County, regional attraction access is tabulated in terms of the number of people within 20 minutes of representative attractions during the most congested conditions in the TDM (*Exhibit 3.5.20*). Specific locations (*Exhibit 3.5.3*) include the highest-attendance venue in each of four venue categories as follows:

- Presque Isle State Park (Nature and Outdoors venue)
- Presque Isle Downs and Casino (Entertainment venue)
- Erie Civic Center / Tullio Arena (Cultural venue)
- Mazza Vineyards (History and Heritage venue)

*Exhibit 3.5.19 – Daily Transit Ridership*



*Exhibit 3.5.20 – Total Population within 20 Minutes of Regional Attraction*

