



# case studies

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## Project

I-465 West Leg Reconstruction Traffic Modeling (Indianapolis, IN), 2006

## Organization

T-Concepts Corp. for Indiana Department of Transportation (InDOT)

## Sector

Freeway Reconstruction/Operational Assessment

## Objective

To evaluate various interchange design alternatives and develop traffic mitigation plans during construction

## Highlights

- Design Alternatives
- Construction Staging
- Maintenance of Traffic

## Contact Point

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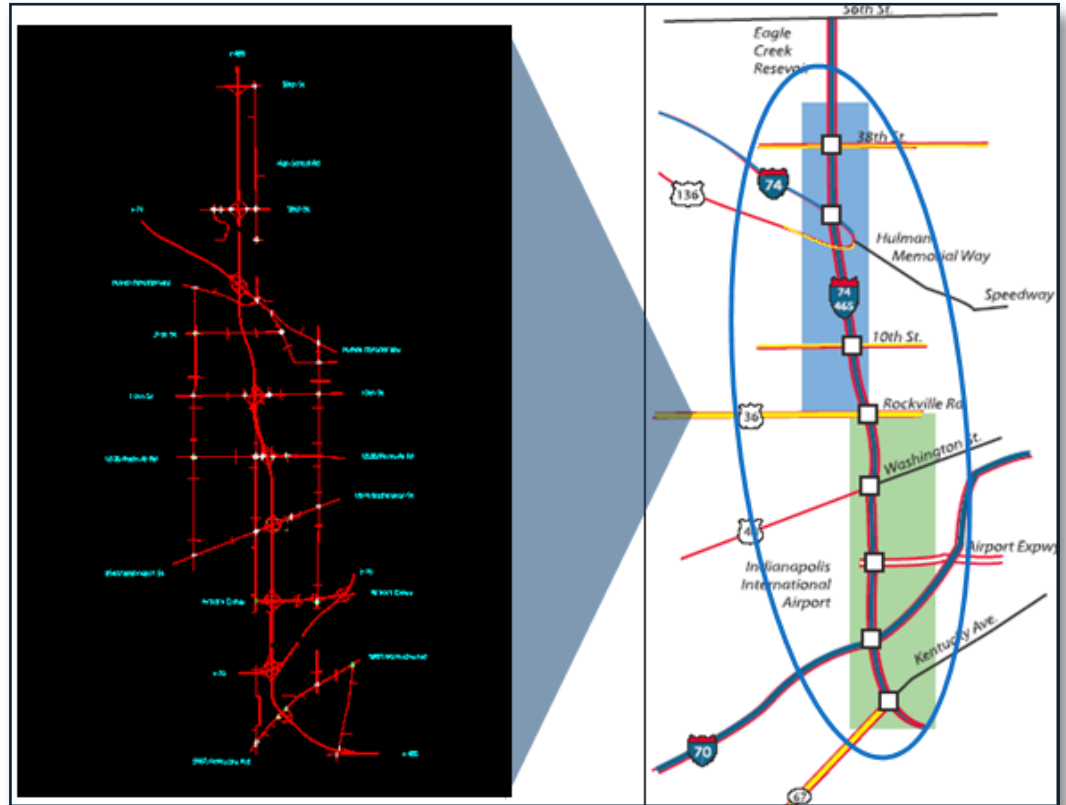
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## I-465 West Leg Reconstruction Traffic Modeling

T-Concepts provided traffic engineering service for the Indiana Department of Transportation (InDOT) as part of the I-465 west leg reconstruction project in Indianapolis, IN. The study area included 11 miles of freeway I-465 along with parallel detour routes and connecting streets. A total of eight interchanges were closely spaced within the study area.



In this project, the I-465 Paramics model was used to perform various tasks including the following:

- Bottleneck analysis: Potential hotspots were identified using the model; their possible causes were analyzed based upon roadway geometric configurations and origin-destination (O-D) traffic patterns. Revised designs were simulated until desired performance results were obtained.
- Evaluation of interchange design alternatives: Various interchange design alternatives were analyzed, including full cloverleaf, single loop parclo, compressed urban diamond, and single point interchanges. Travel times were used as a performance measure.
- Construction staging and maintenance of traffic plans: The impacts of freeway closures during construction were analyzed to evaluate construction staging/phasing options. Subsequently, a traffic maintenance plan was developed, considering right-of-way constraints and implementation costs. Three different mainline closure scenarios were analyzed: full, partial, and no closures.
- Integrated corridor operational analysis: The 2026 design-build network was analyzed, based on system-level and local-level performance measures, considering interchange-to-interchange as well as freeway-to-local street interactions.

