Roadway Network
and
Traffic Analysis Zones

El Dorado County

Board of Supervisors

July 24, 2012

Agenda

- Overview of roadway network
- What is a TAZ?
- TAZ Design Considerations
- Finalizing TAZs
- Micro vs Macro Models
- Four Step Process
- What the macro model can do
- Project Schedule

Roadway Network

The Roadway Network includes major County roadways and is an essential part of the Travel Demand Model (TDM). These uses include serving as the:

- Basis for estimating travel time between Traffic Analysis Zones
- Basis for traffic assignments
- Tool to facilitate an understanding of how trips are distributed, and
- Tool for displaying the level of traffic congestion associated with different land use scenarios

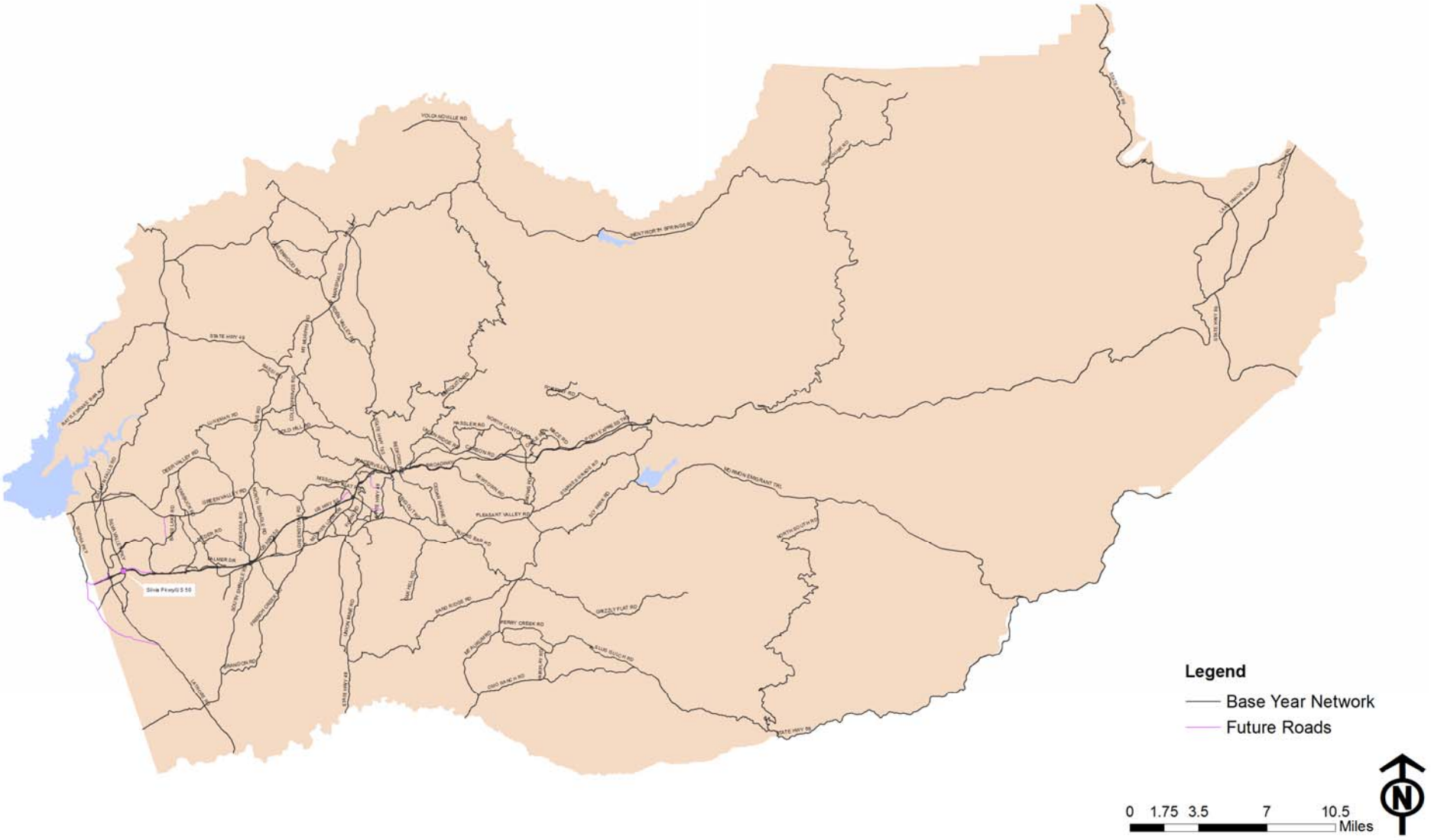
Roadway Network, Cont.

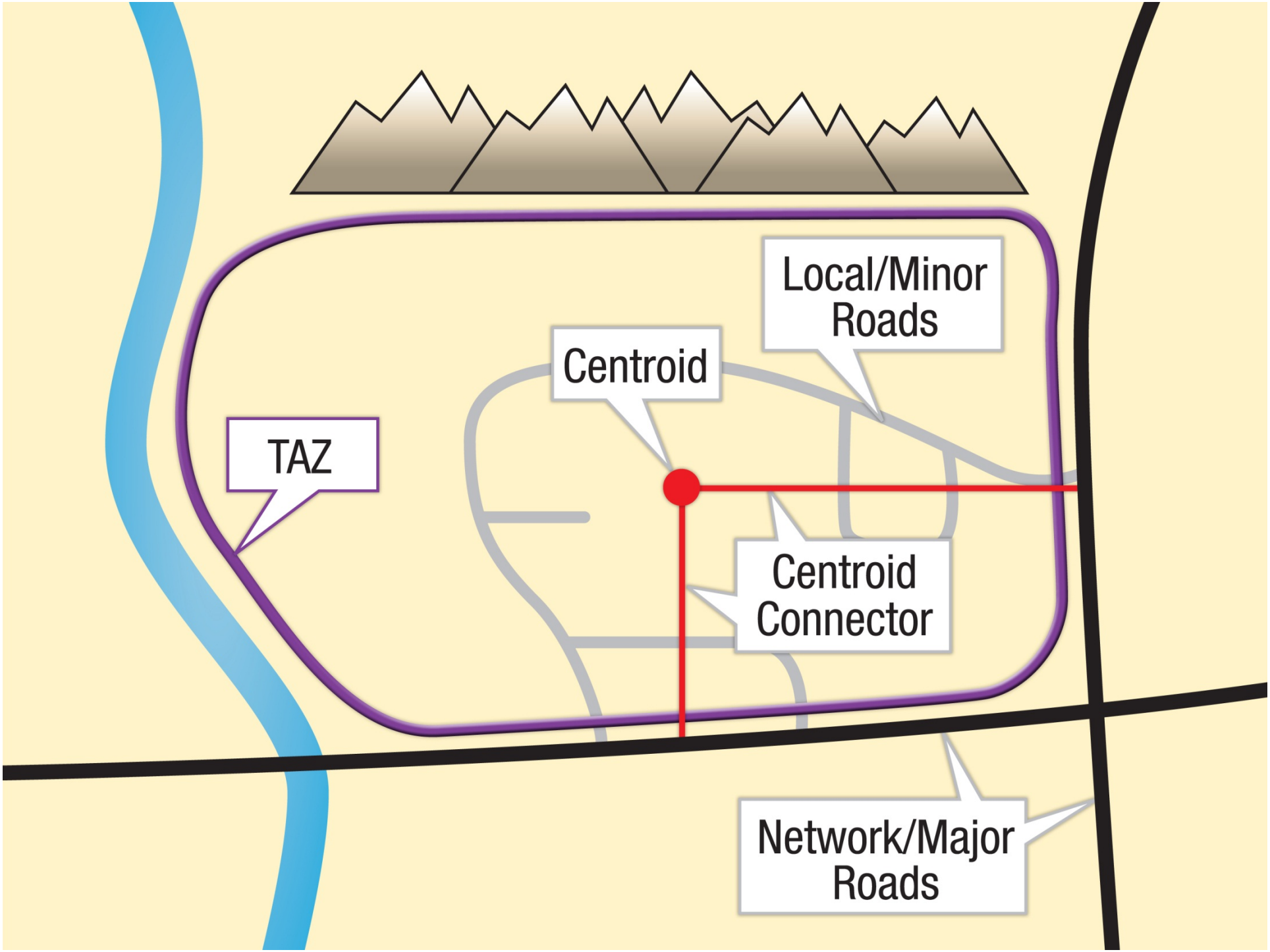
The Roadway Network was developed by reviewing the following networks :

- **Input of GPSroads layer from existing County data**– this Geographical Information System (GIS) layer is an inventory of existing roadways in the County, including all of the highways and major roads identified in the El Dorado County General Plan Circulation Element.
- **2025 SACMET Network -** the SACMET roadway network includes regional highways and major arterials in the Sacramento region, including those in El Dorado County. The review focused on the data attributes coded for roadway classification, free-flow speed, capacity, number of lanes and link distance.
- **2025 EDC Model Network** – this network from the current EDC model was converted from its MINUTP format for analysis in GIS.
- **The 2035 Future Roadway Network** – this network included those roads identified in the 2012 CIP as future roads could then be visualized.

*It should be noted that roadways in the Tahoe Basin are currently not a part of the network, as this area is managed by the Tahoe Regional Planning Association.

Date: 5/21/2012




Local/Minor Roads
Centroid
TAZ
Centroid Connector
Network/Major Roads

What is a TAZ?

- Basic unit of spatial data for the model
- Used to aggregate land use for analysis
- Used to manage internal capture
- Basis for loading the model network
- Serves as a data “bucket”
- Used to understand spatial differences
- Used to display information

A TAZ is not….

- a tool for vesting property rights
- a land use planning tool
- designed for creative “purposes”

TAZ Data Sources

- Current EDC TAZ Structure – 267 zones
- Draft 2010 EDC TAZ Structure – 934 zones
- SACOG TAZ Structure – 126 zones
- Proposed EDC TAZ Structure – 477 zones

TAZ Design Considerations

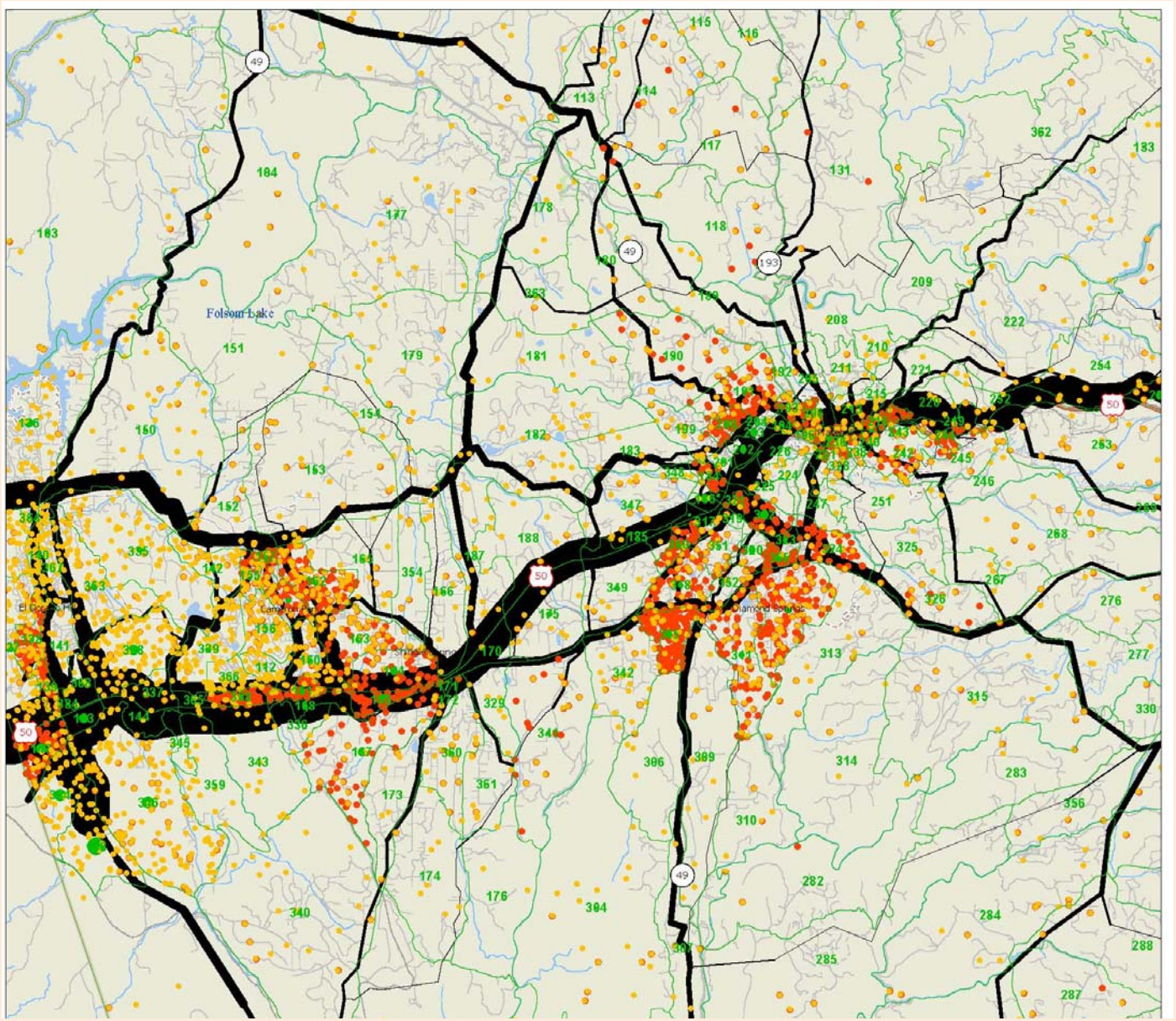
- TAZs provide conduits for network loading
- TAZs should reflect model accuracy
- Large developments should be disaggregated
- Urban zones should not be to small
- Roadways/physical constraints are the edges
- TAZs must touch the network
- TAZs should be understandable

Finalizing TAZs

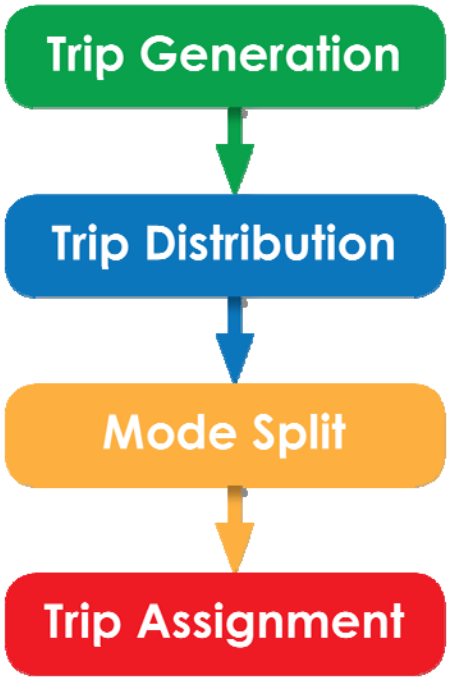
- Public/additional EDC staff comments
- Evaluation of future land use
- TAZs outside of EDC
- Validation/calibration challenges
- Transit network requirements
- Unique land uses (mixed uses/special generators)
- Other

Micro vs Macro

Micro vs Macro



“Four Step” Model



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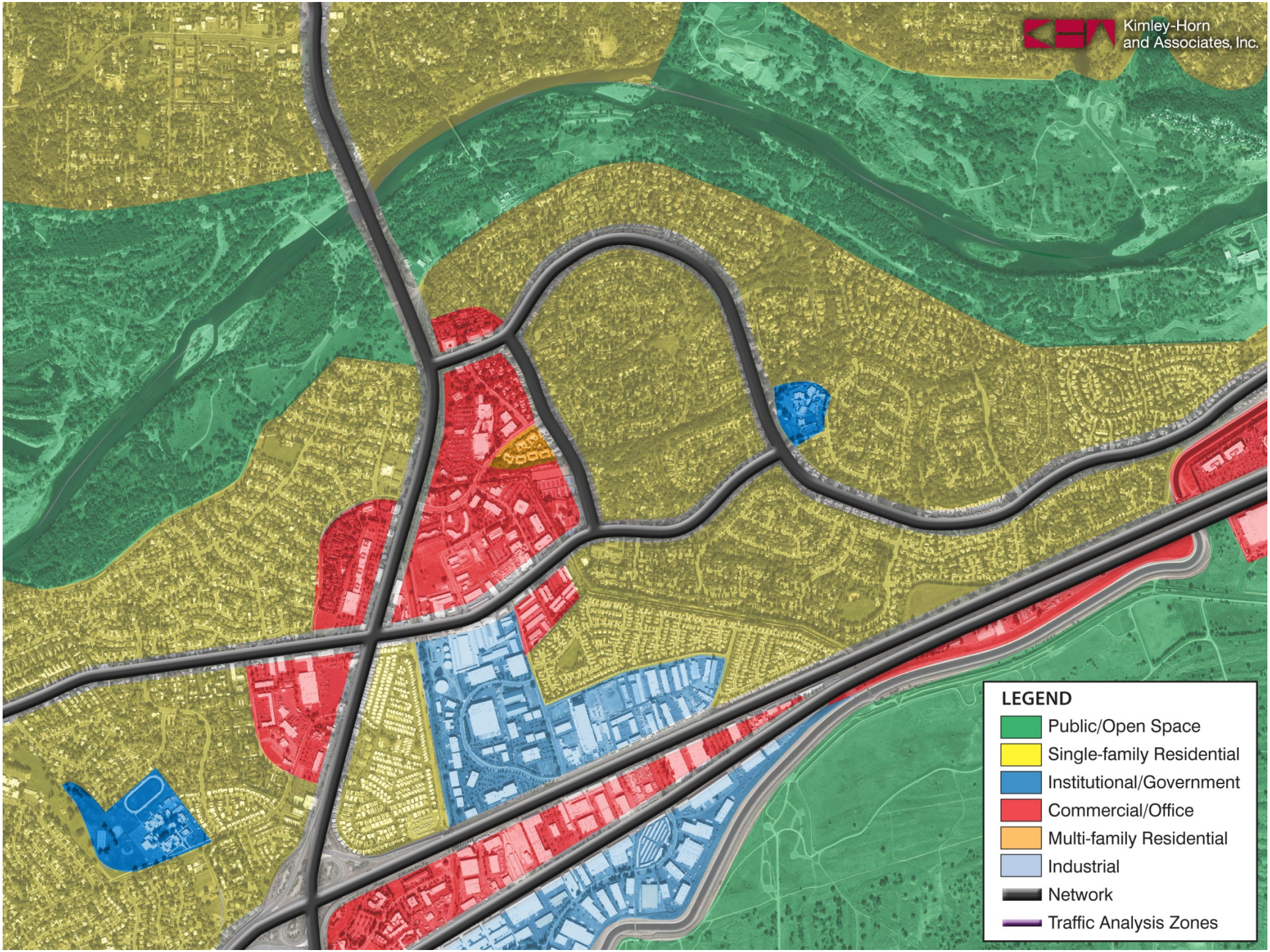
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Commercial/Office
Multi-family Residential
Industrial
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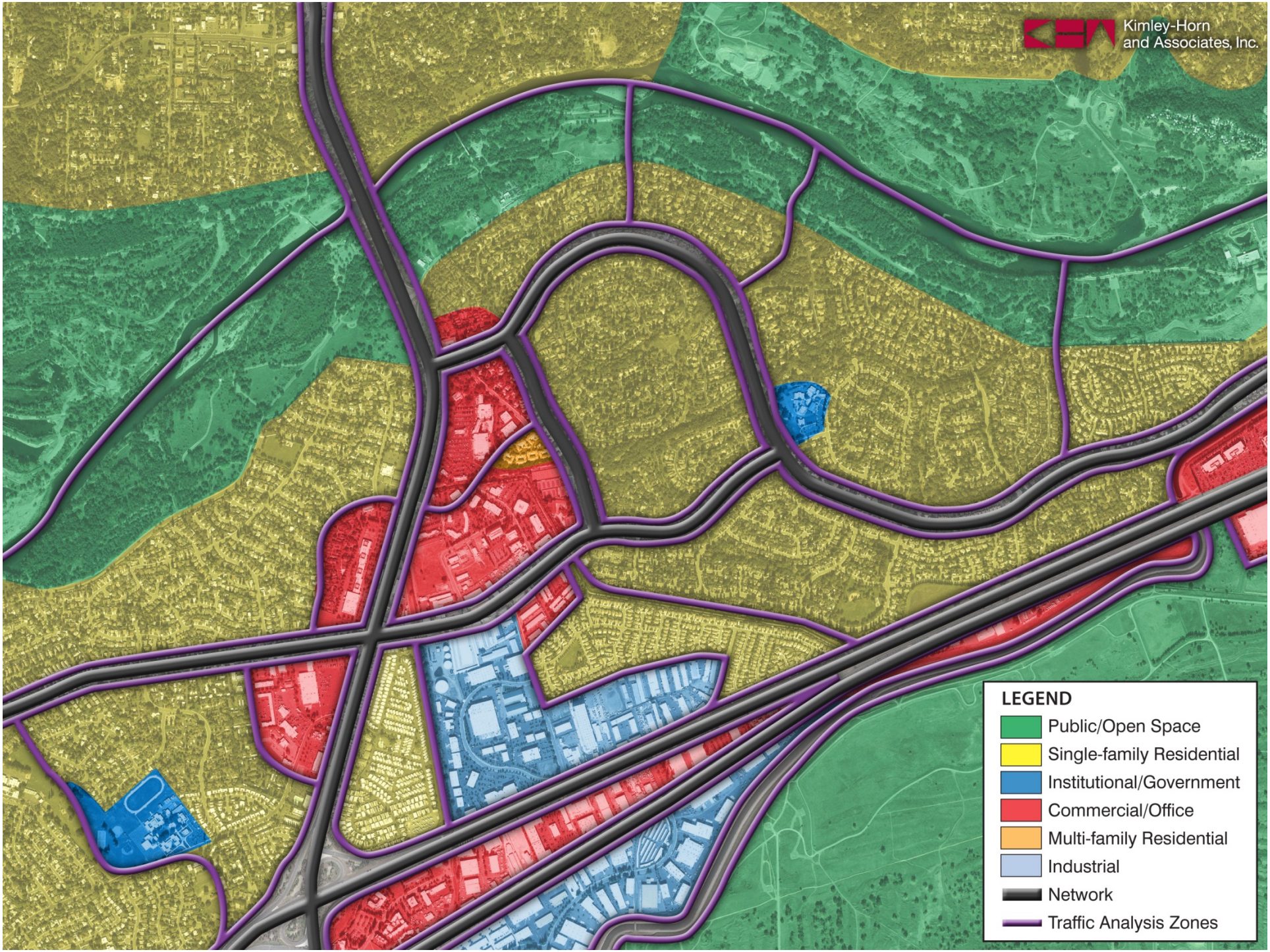
Traffic Analysis Zones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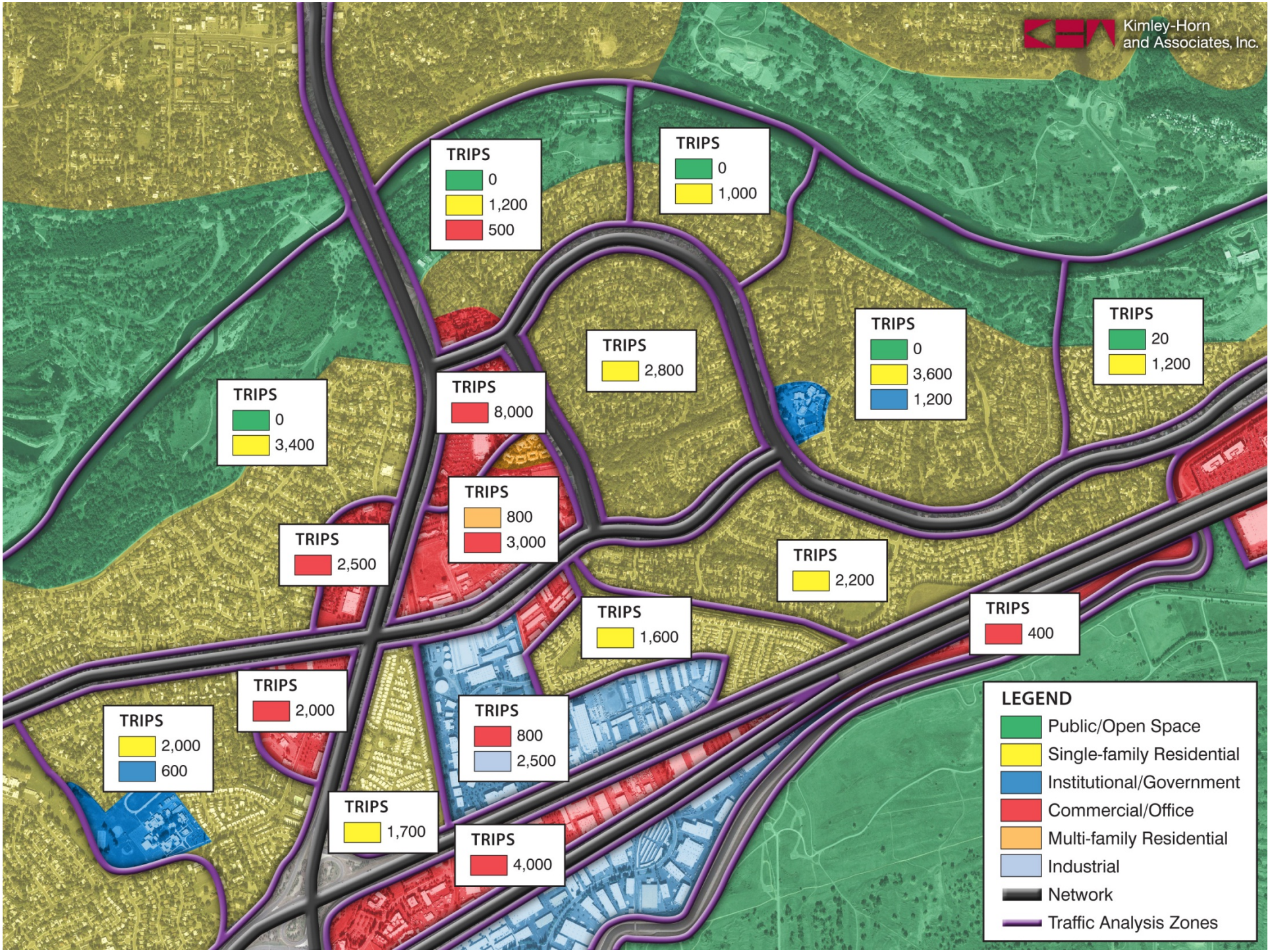
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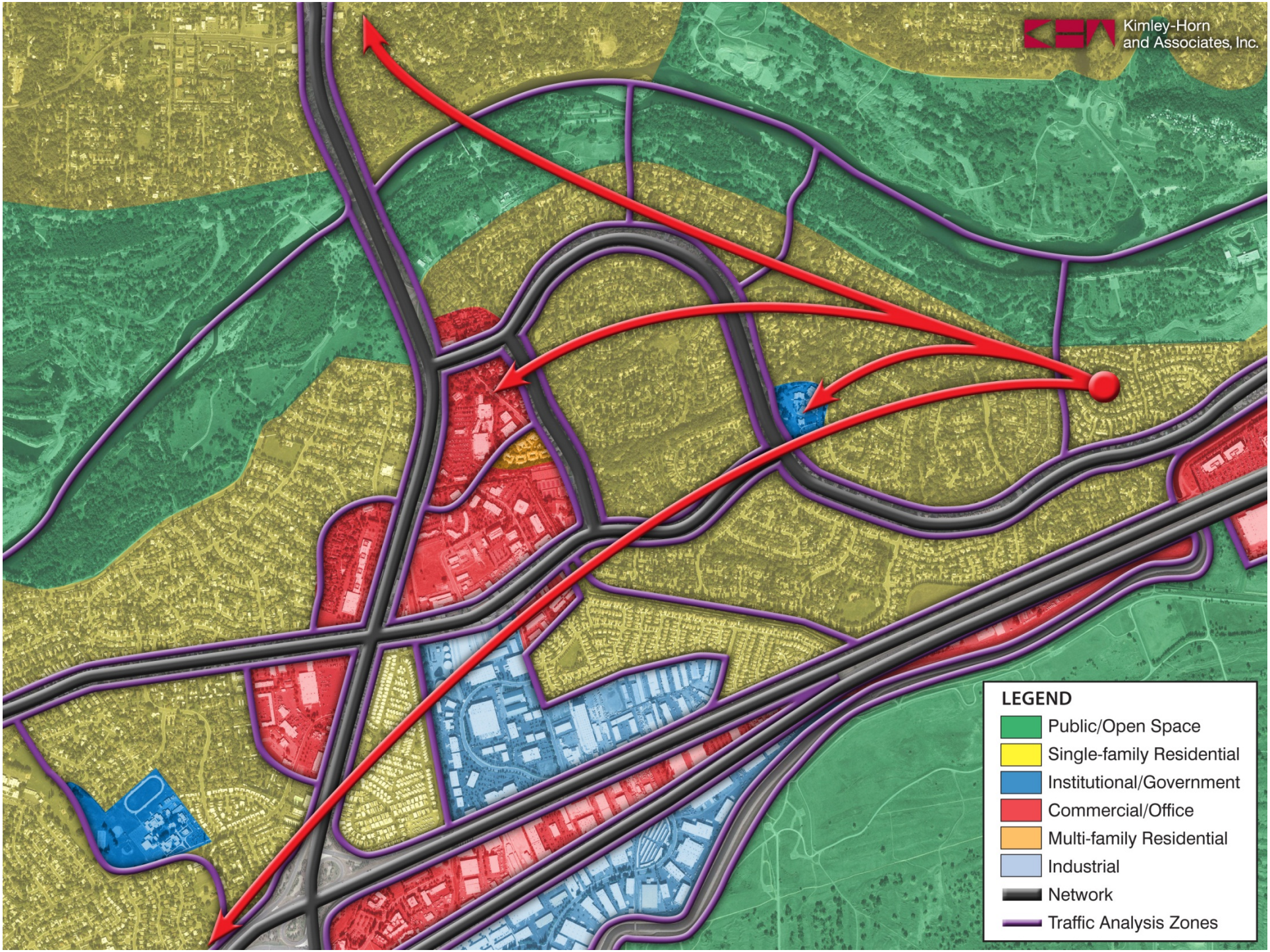
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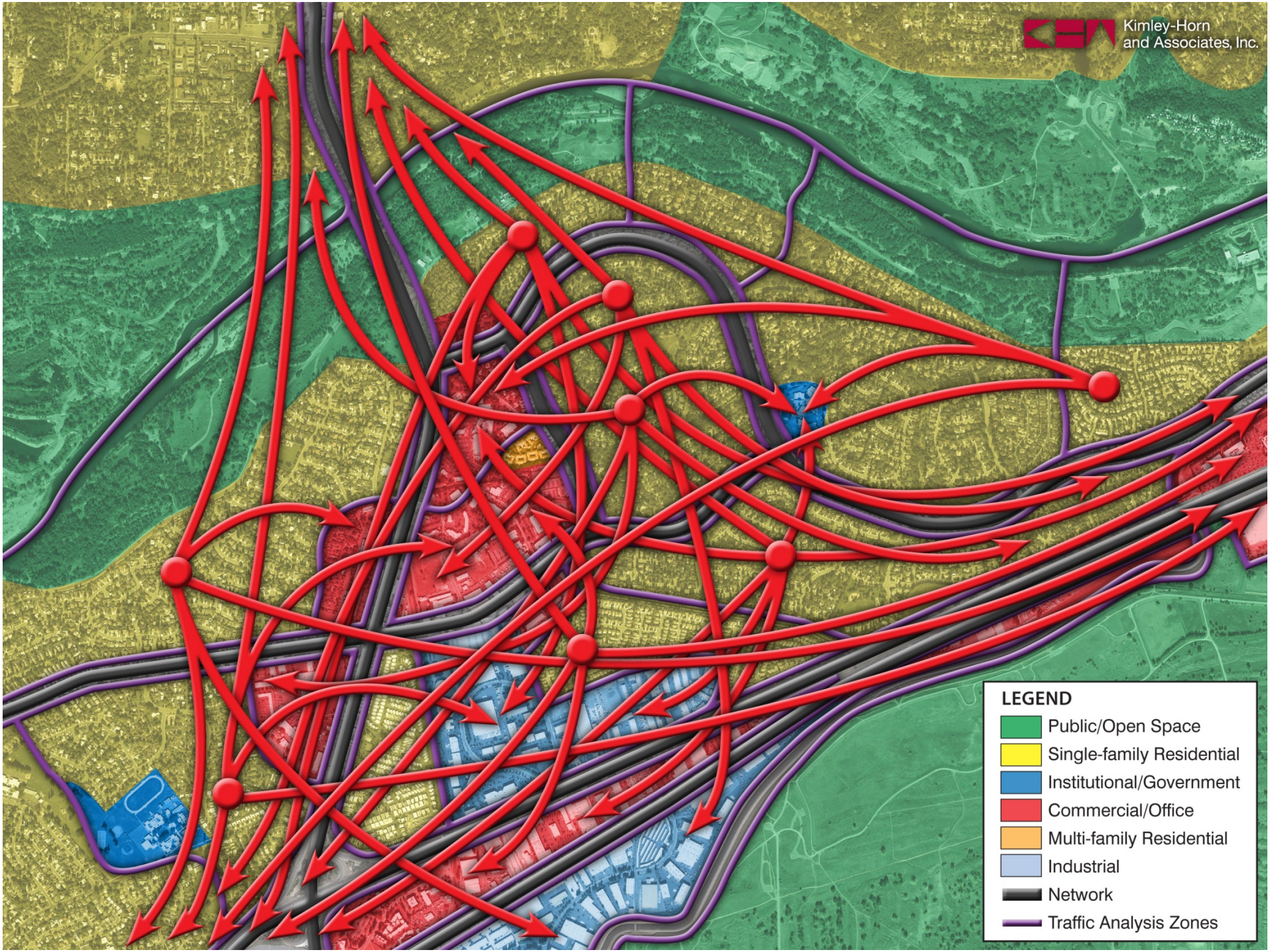
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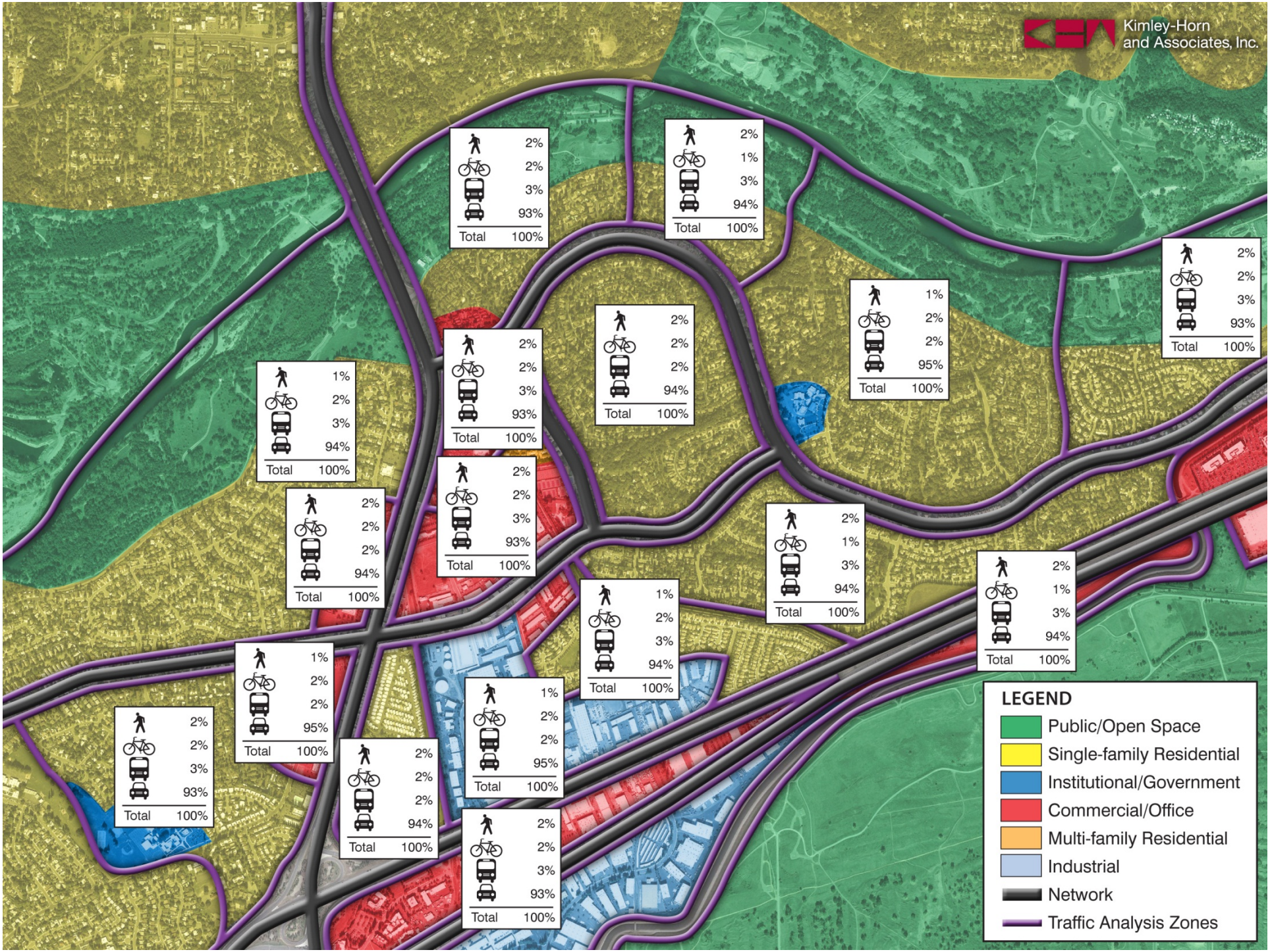
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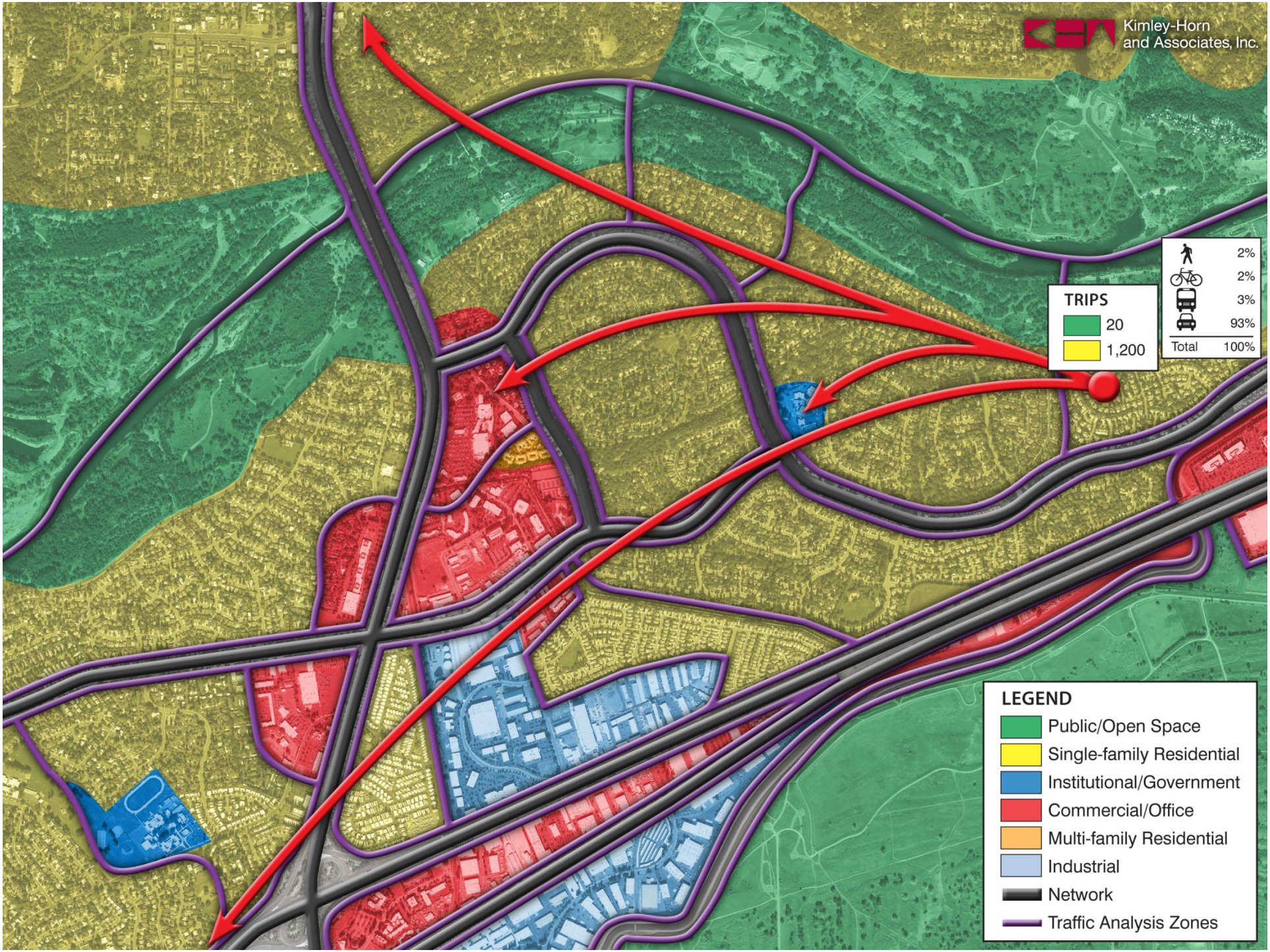
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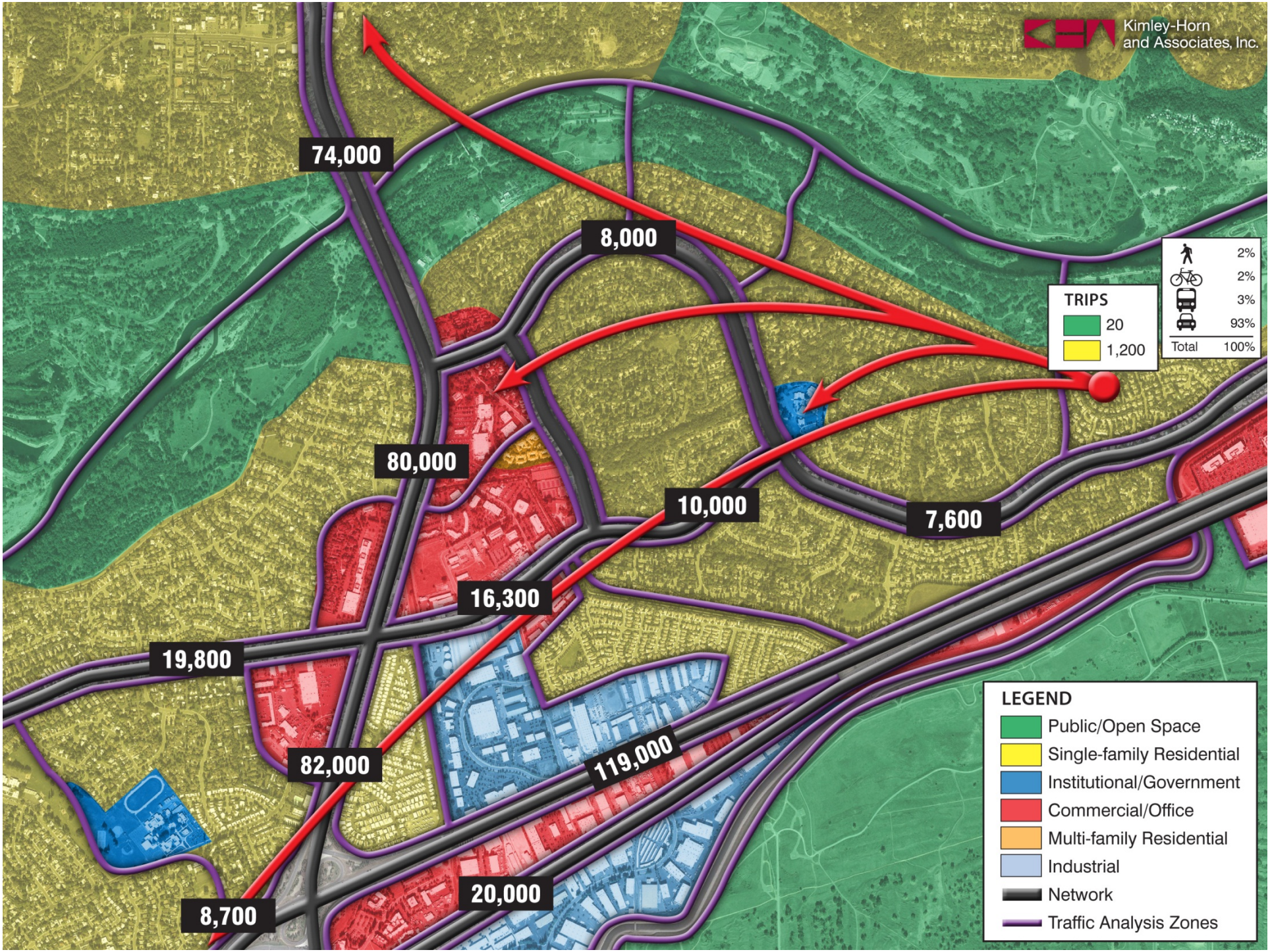
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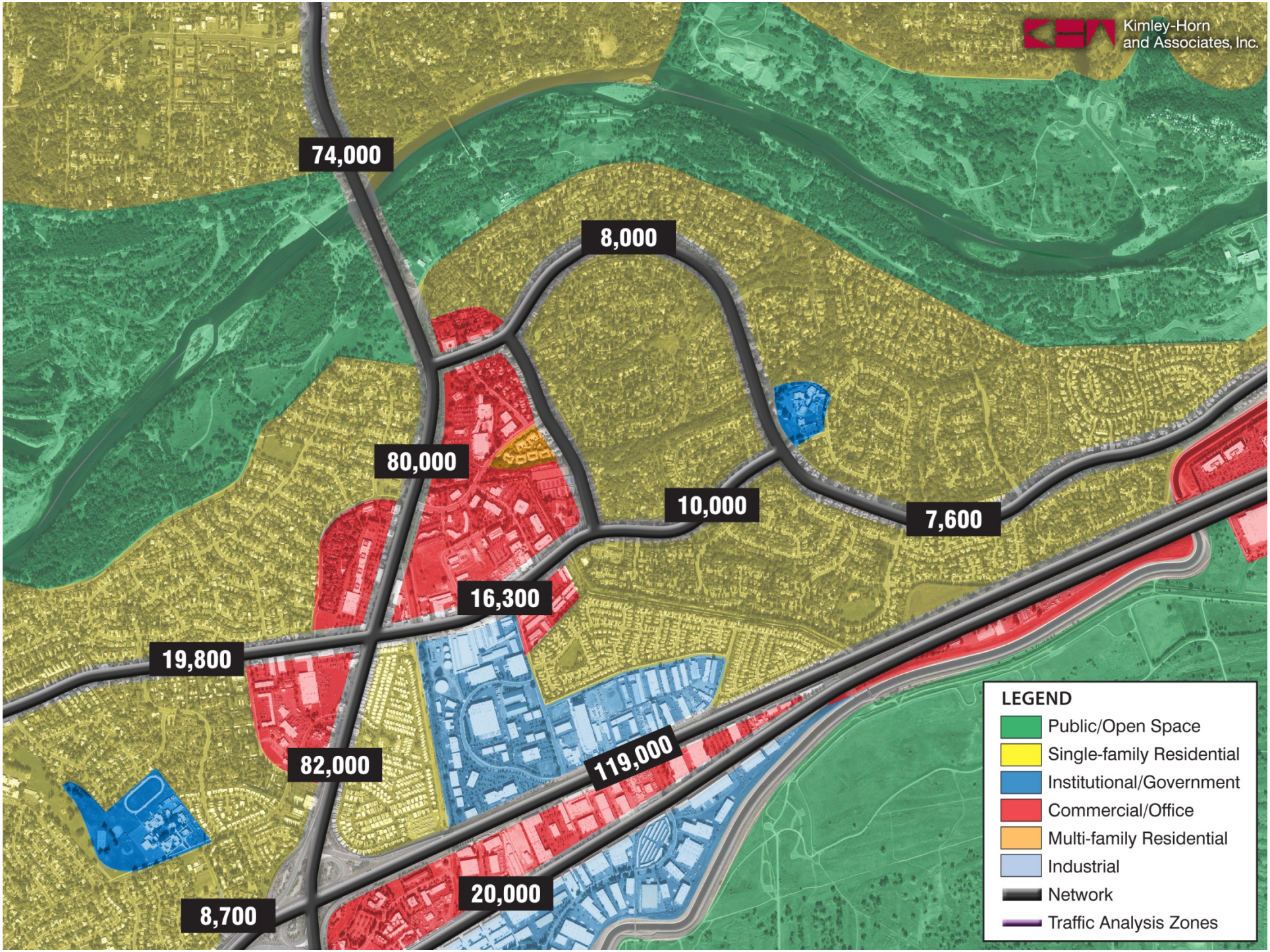
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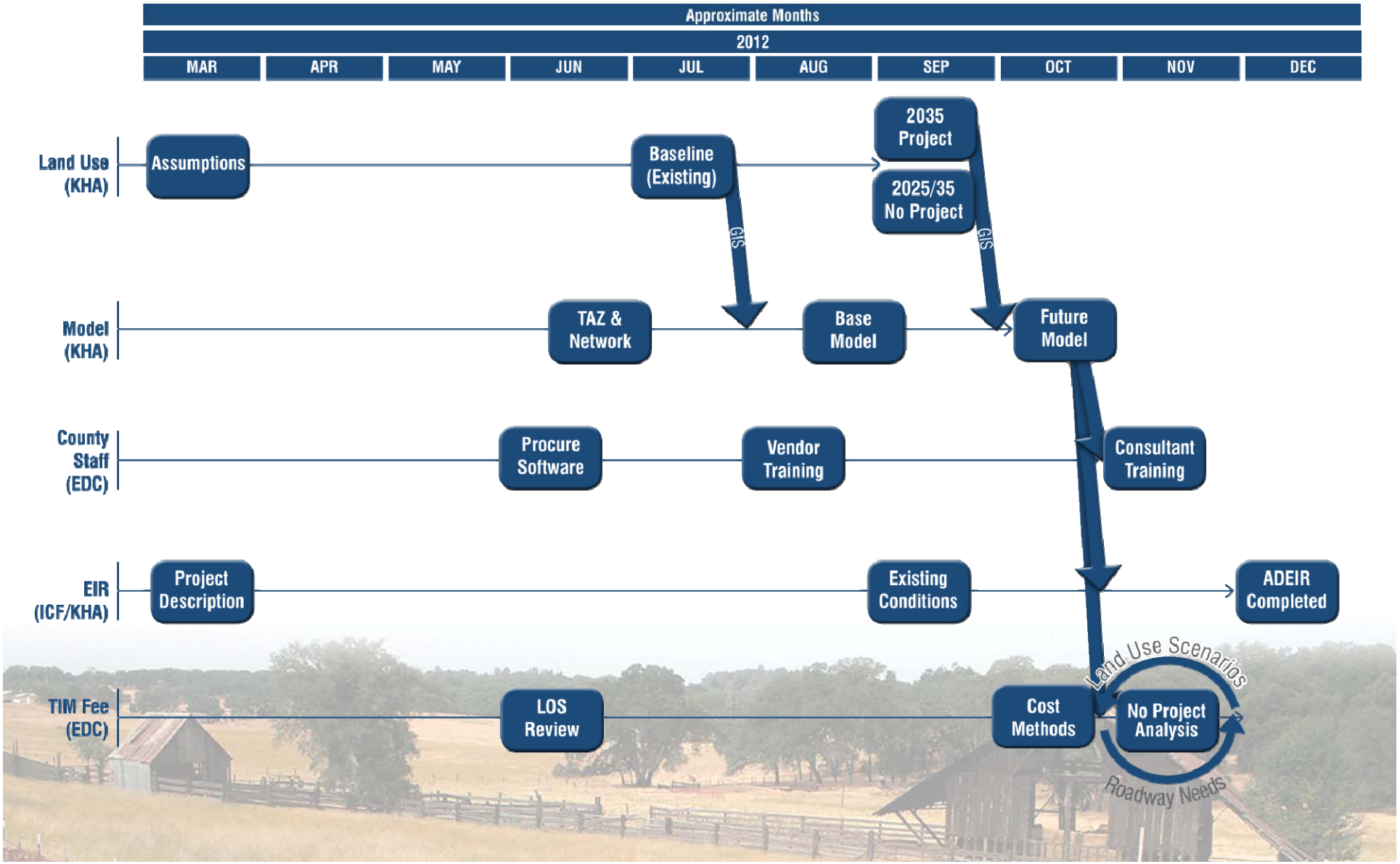
What the macro model can do

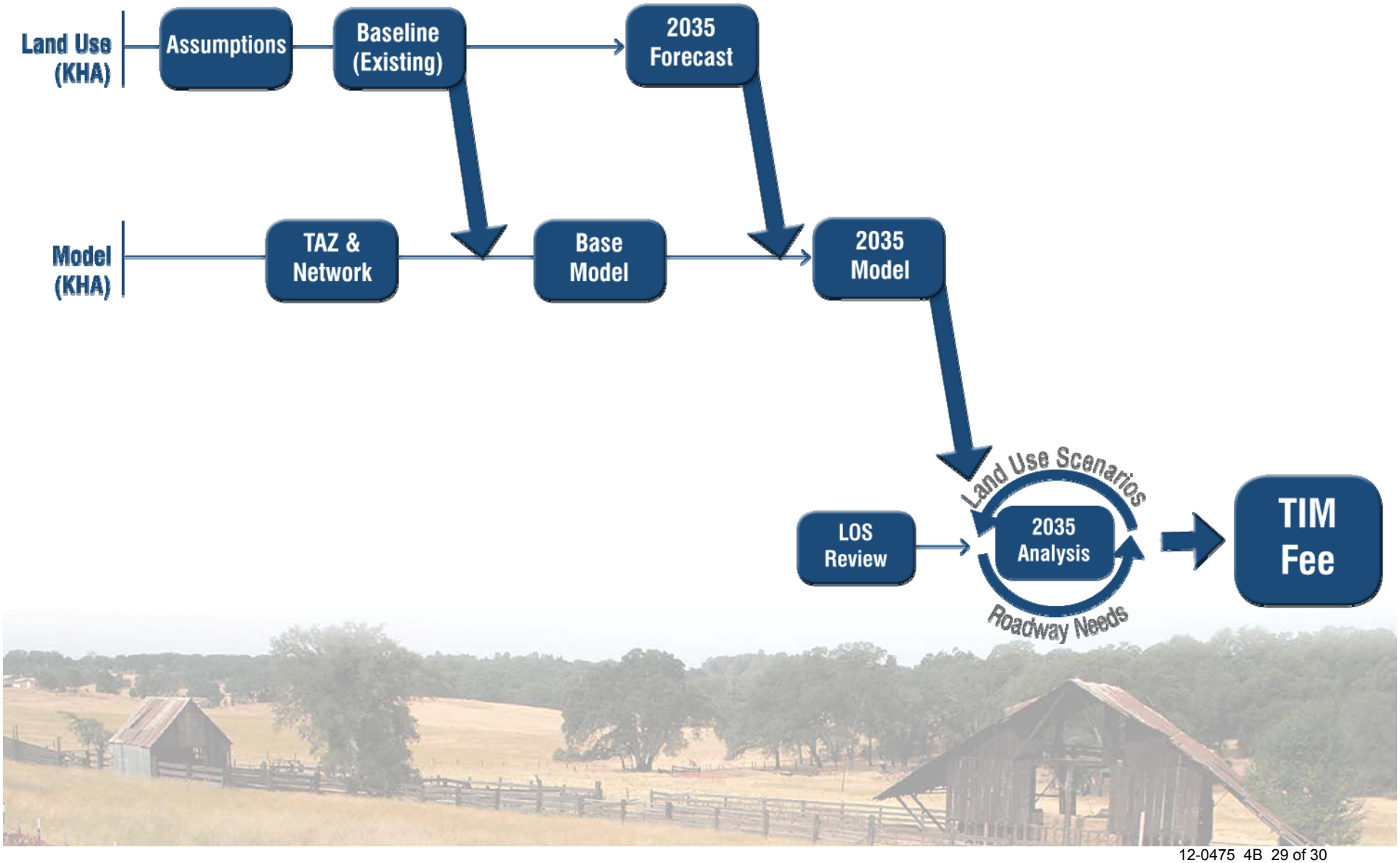
- Evaluate road widening and road additions
- Evaluate new interchanges
- Analyze the impacts of transportation plans
- It can show impacts of large developments
- It can forecast corridor volumes
- It can be used as a basis for micro
- It can test alternative land use plans

Questions and Answers

Land Use Policy Programmatic Update



Schedule


Land Use (KHA)
Assumptions
Baseline (Existing)
2035 Forecast
Model (KHA)
TAZ & Network
Base Model
2035 Model
Land Use Scenarios
LOS Review
2035 Analysis
Roadway Needs
TIM Fee

Next Steps

- KHA to Revise Technical Memorandum #3 & #4 based on feedback from public comments and the Board of Supervisors from the July 24, 2012 hearing

- KHA to incorporate revised TAZ and Roadway Network maps into Travel Demand Model

- Staff to return to BOS next month for update to Travel Demand Model