Statewide Transportation Planning in Arkansas

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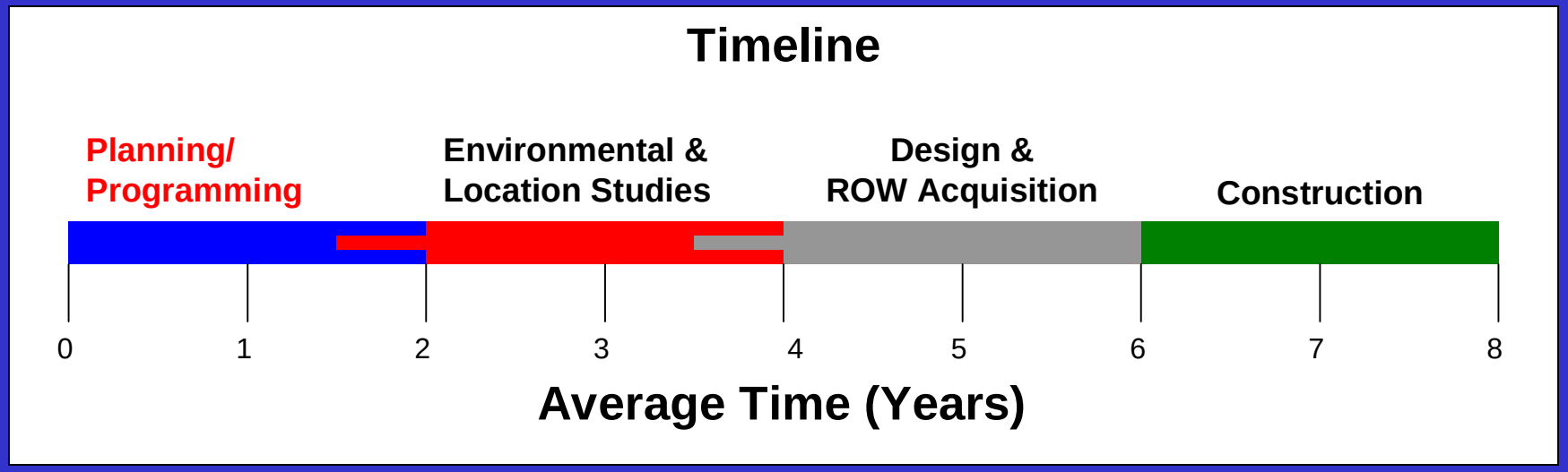
The Planning Process

- **Planning / Programming – 24 Months**
- Environmental & Location Studies – 30 Months
- Final Design & Right-of-Way Acquisition – 24 Months
- Construction – 24 Months



Typical Steps in the Planning Process

- **Determine the Purpose and Need of the proposed project**
- Collect and analyze traffic and crash data
- Identify and analyze alternative solutions
- Conduct public involvement meetings
- Document findings and present to the Highway Commission

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Data Collection

- Traffic Data
  - 24 and 48-hour Counts
  - Vehicle Classification Counts
  - Turning Movements
  - Weigh in Motion
  - Speed
- Rail Crossing Inventory
  - Vehicle Traffic
  - Rail Traffic
  - Crash History

Data Collection

- Cursory Environmental Review
- Pavement Condition - Automatic Road Analyzer Vehicle (ARAN)
- Falling Weight Deflectometer
- Skid Truck
- Multi-Media Highway Information System

Data Collection

- Census and Other Demographics
  - Population
  - Employment
- Crash Statistics
  - Location
  - Severity
  - Roadway Conditions
  - Environmental Conditions
- Geographic Information System / Global Positioning System

Data Collection

- Evolution of Aerial Photography

2001

2002

2004

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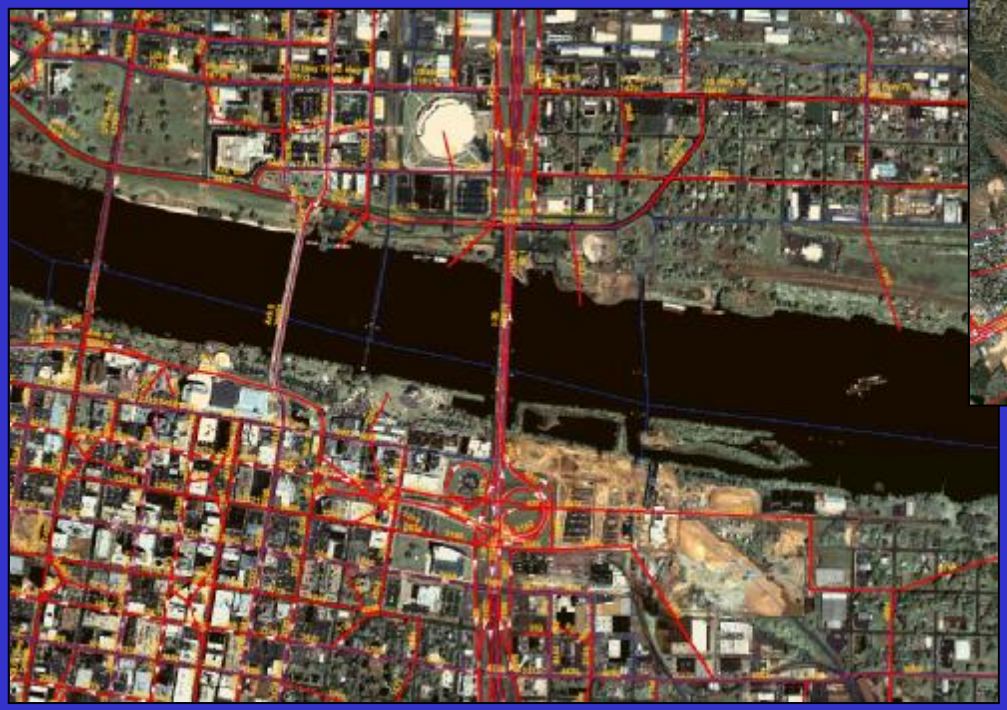
Analysis Tools

- Highway Capacity Manual and Software
  - Freeway Operation Analysis
    - •Basic Freeway Segment Operation Analysis
    - •Weaving
    - •Ramp Capacity and Operation Analysis
  - Urban Arterial Analysis
  - Rural Highway
    - •Multilane Highway
    - •Two-Lane Highway
  - Intersections
    - •Signalized and Unsignalized

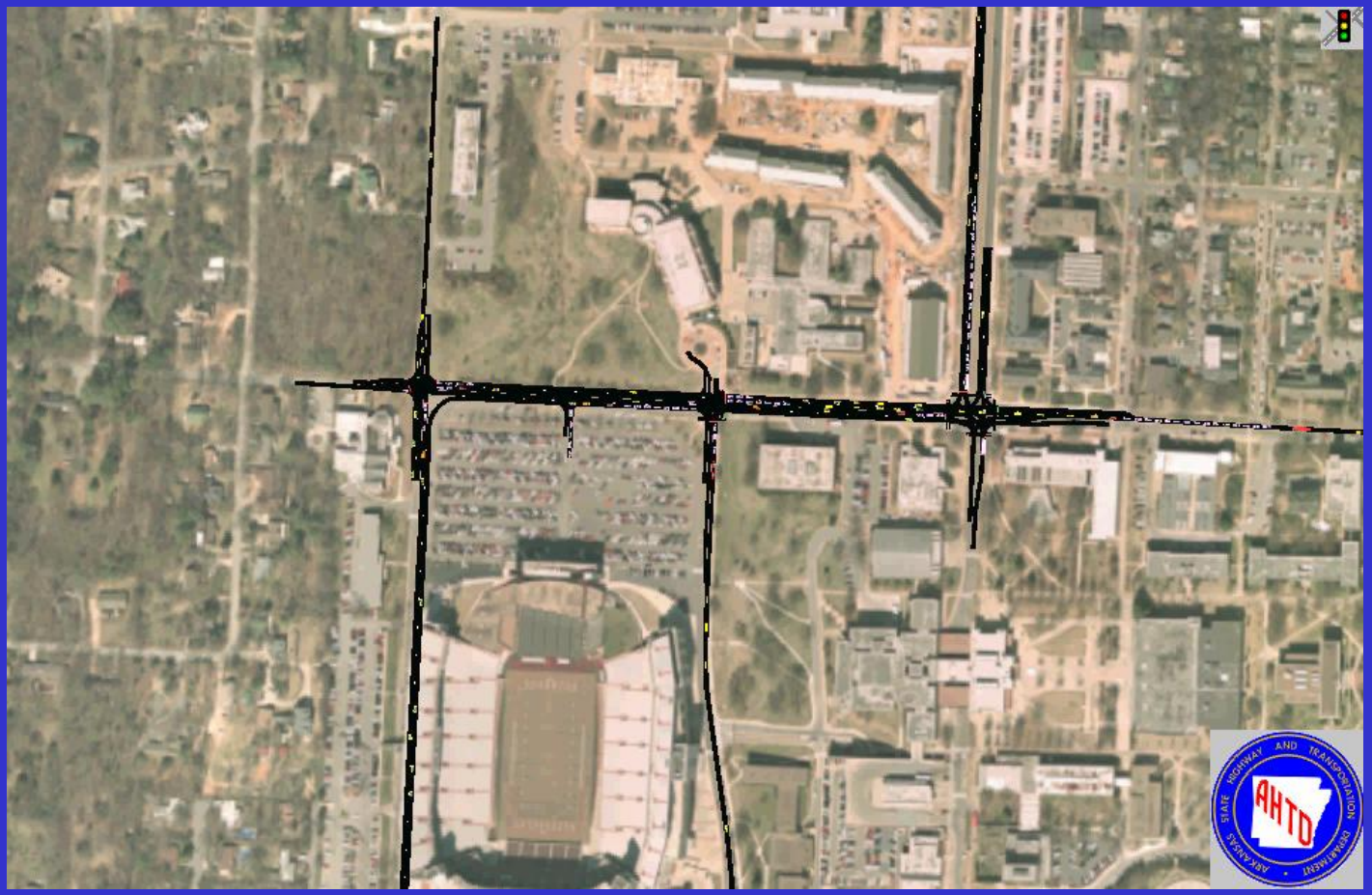
Analysis Tools

- Travel Demand Models
  - Central Arkansas
  - West Memphis
  - Northwest Arkansas



Analysis Tools

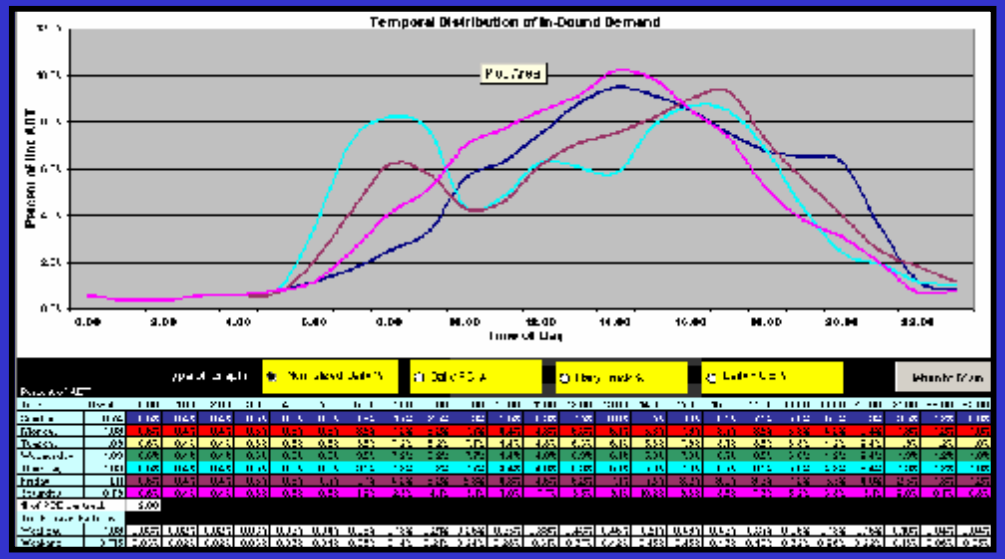
- VISSIM – Micro Simulation Model



Analysis Tools

- QuickZone
  - Corridor delay
  - Comparison of delay impacts of alternative project phasing plans
  - Tradeoff analyses between construction and delay costs
  - Impacts of Construction Staging
  - Assessment of travel demand measures and other mitigation strategies
  - Establishes work completion incentives

QUICKZONE
A NEW WORK ZONE DELAY ESTIMATION TOOL



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Public Involvement

- Meetings with local leaders
  - local priorities and needs
  - potential solutions
  - gather local information
- Public Meetings –
  - gather local information
  - present preliminary findings and draft recommendations
  - accept comments and questions

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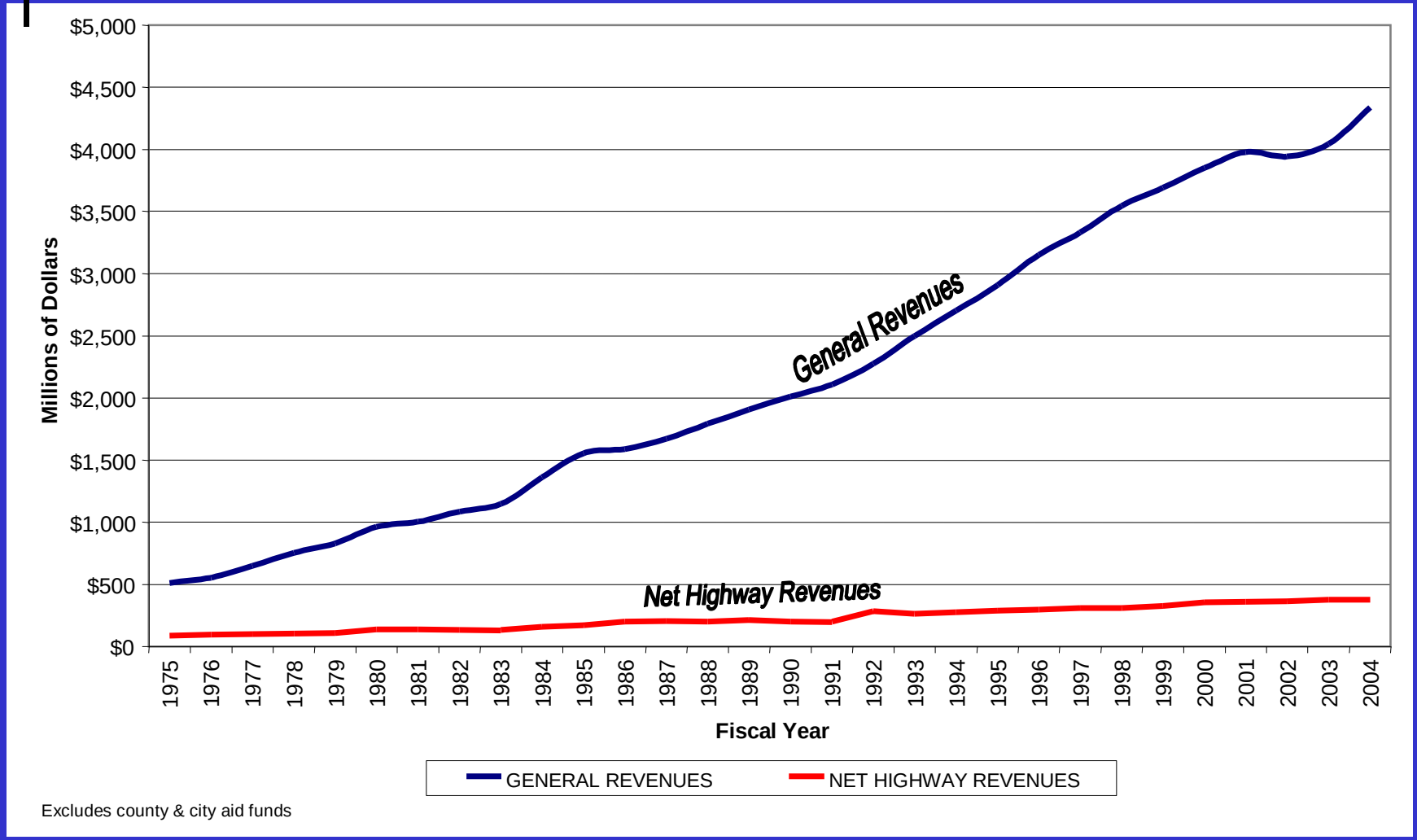
Developing a Statewide Plan

- The Commission and Department are responsible for 16,444 miles of roadway and 7,116 bridges.
- The State Highway System comprises only 17% of the State's 98,607 total public road miles.
- The State Highway System carries 80% of the total traffic and 97% of all heavy truck traffic.

Developing a Statewide Plan



Excludes county & city aid funds

Current and Emerging Issues

- Managing an extraordinarily large highway system -
  - > 12th largest system in the nation
  - > 39th in funds available per mile
- 20% increase in travel over the next 10 years
- Environmental and route location issues
- Increasing construction costs
- Lowest Administrative costs per mile

Arkansas State Highway and Transportation Department