

Dynamic Traffic Assignment for Planning in Williamson County

TexITE Spring Meeting

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Austin, Texas



THE UNIVERSITY OF TEXAS AT AUSTIN
CENTER FOR TRANSPORTATION RESEARCH

COLLABORATE. INNOVATE. EDUCATE.

What's Happening in Wilco

- 3 of top 10 fastest growing cities (%) with 50K + population in Texas since 2010 are in Williamson County:
 - # 1 – Cedar Park
 - # 4 – Georgetown
 - # 10 – Round Rock
- Growing by 16,000 people / year
- Housing units up by 85% since 2000
- 10 year job growth in Austin metro 2.14% while 10% in Cedar Park & Round Rock

Source: Texas State Data Center, U.S. Census Bureau, Population Estimates, 2000 & 2010 Census



Enter a county or major city: Williamson County (Round Rock), Texas



Net gain from 103 counties in other states and 51 counties in Texas

2010

Source: Internal Revenue Service. Map by Forbes showing net migration of tax filers (# of exemptions) to Williamson County in 2010 tax year.

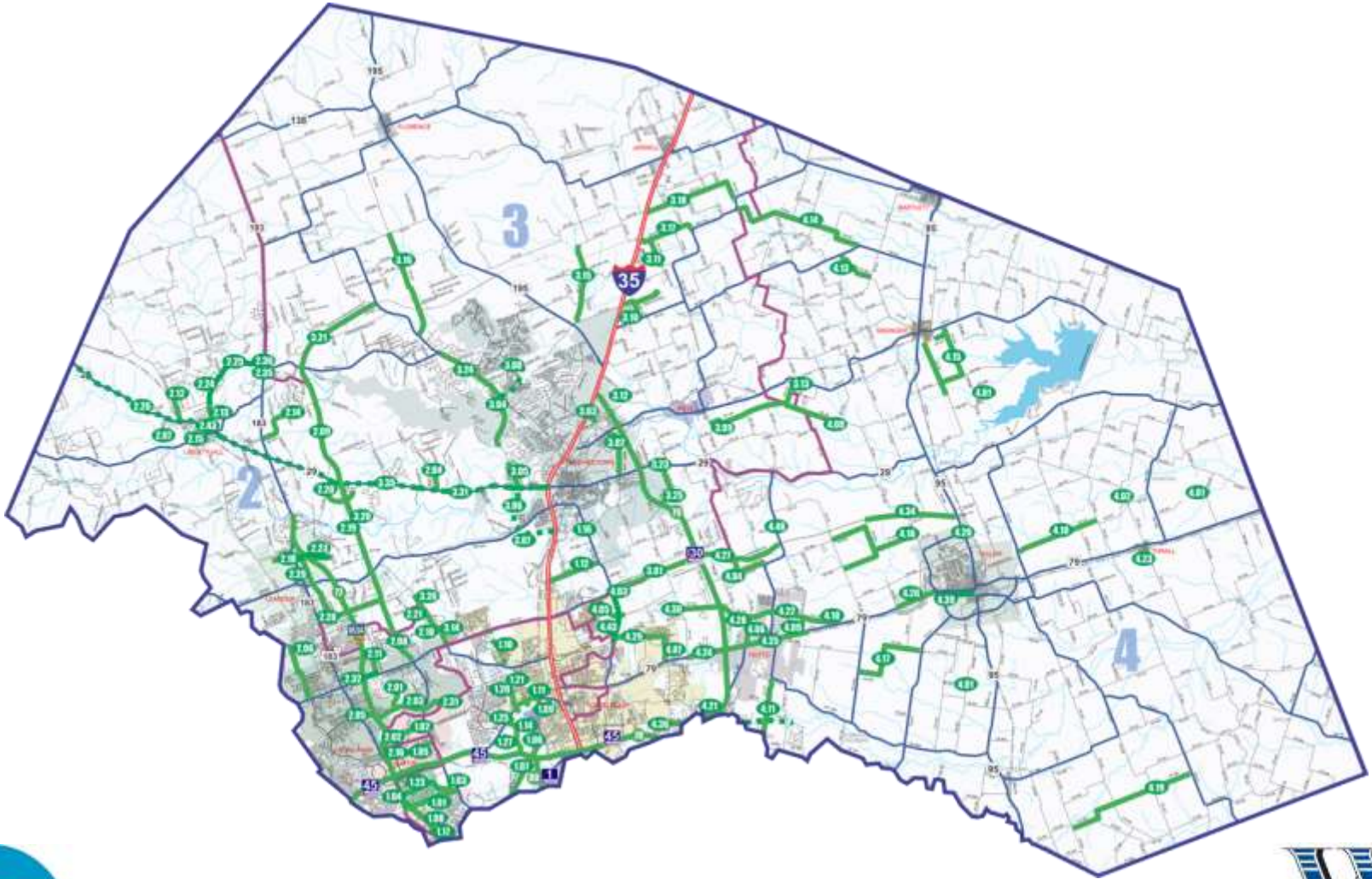


Wilco's Response

- Partnered with TxDOT and Cities in the County
- Added over 300 lane miles of roadway
- Dozens of intersection improvements
- Invested over \$700 million in transportation projects



Projects Completed by 2012

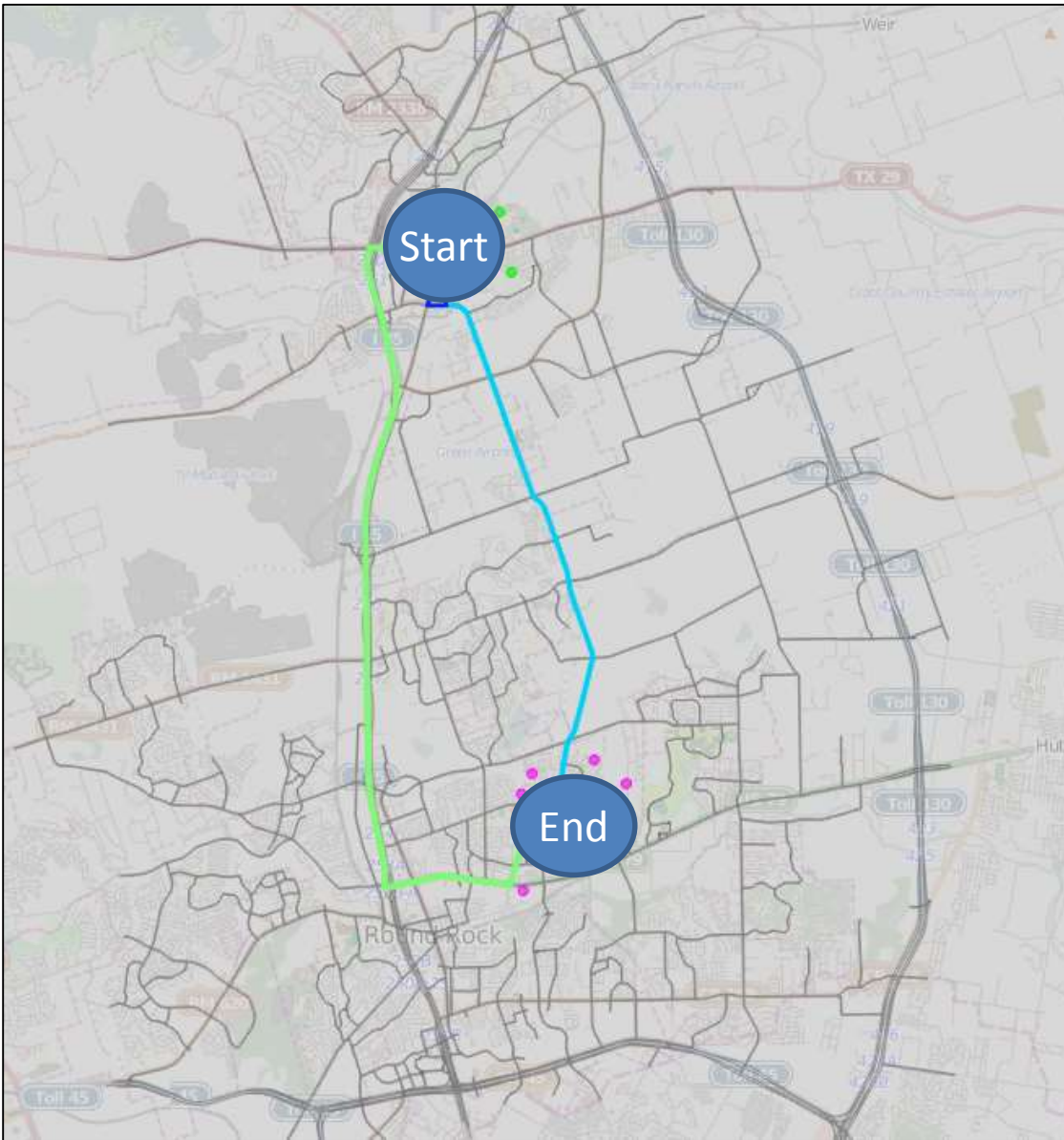


What Now?

- Nov. 2013 - Voters approved \$275 million for additional transportation improvements
- Must be smart on how those \$\$ are spent
- Modeling, specifically Dynamic Traffic Assignment helps better inform our decisions
- Plan to use DTA on
 - Brushy Creek /Hairy Man Road Corridor
 - Great Oaks Trail/ Brushy Creek Road intersection
 - IH 35



Dynamic Traffic Assignment



1. Considers capacity in addition to demand
2. Re-routes traffic due to congestion
3. Provides more detailed roadway network

Process

CAMPO Model
predicts travel
demand

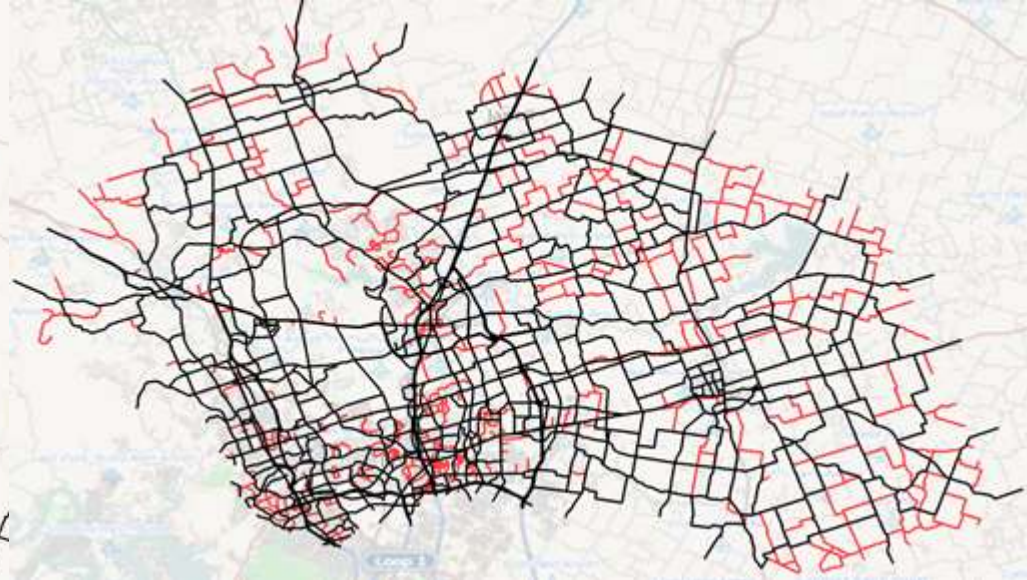
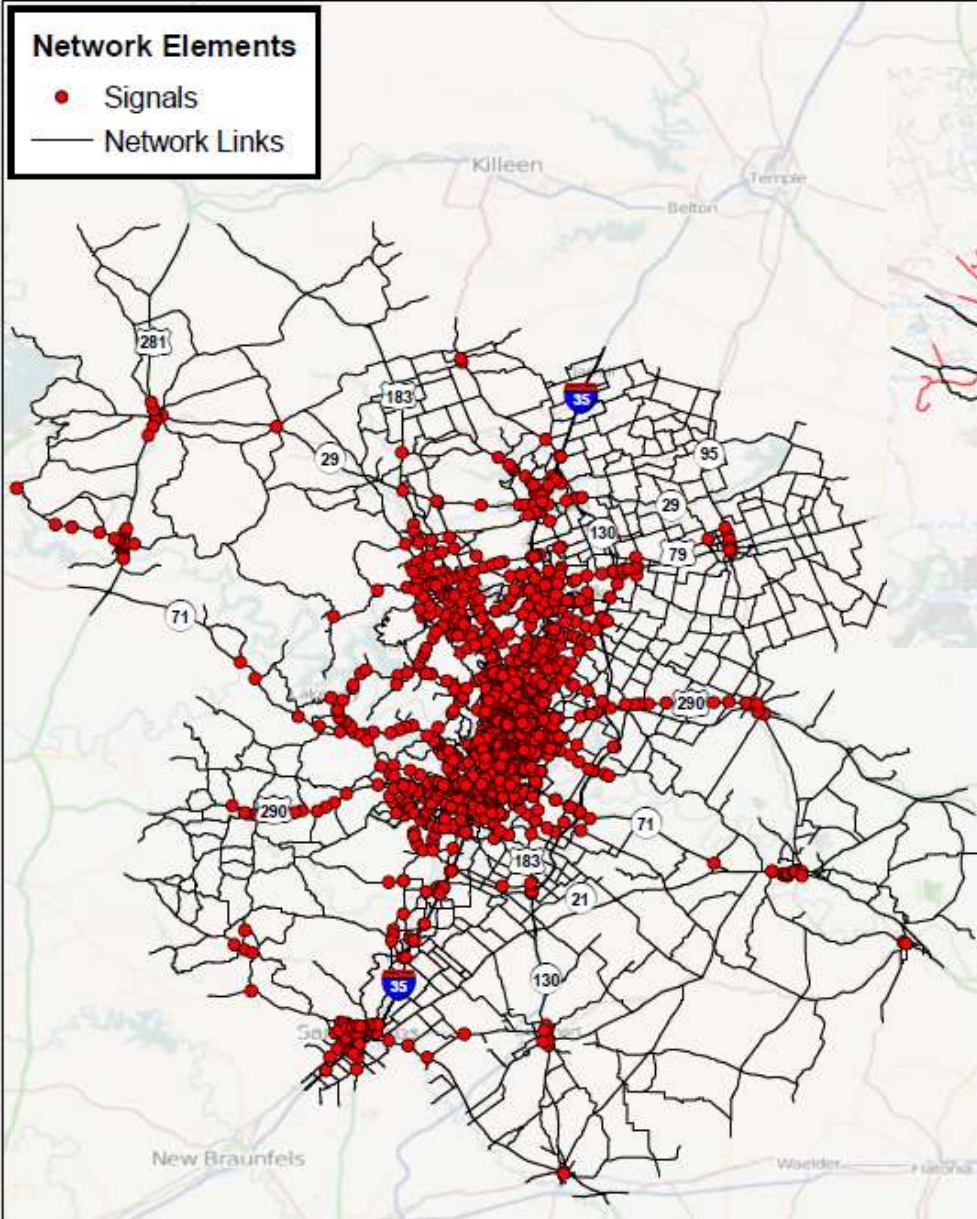
DTA assigns
demand to
routes

Microsimulation
outputs detailed
performance
metrics

Network Completion

Network Elements

- Signals
- Network Links



Input to Microsimulators



Project Analysis and Selection

- Neighborhood impacts
- Impacts of traffic control plans
- Reproducible results for traffic impact studies
- Regional and local project selection

