

War of the Forecasts: Model vs Project

Tennessee Model Users Group

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NCDOT - Transportation Planning Branch

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TRANSPORTATION PLANNING BRANCH

Outline

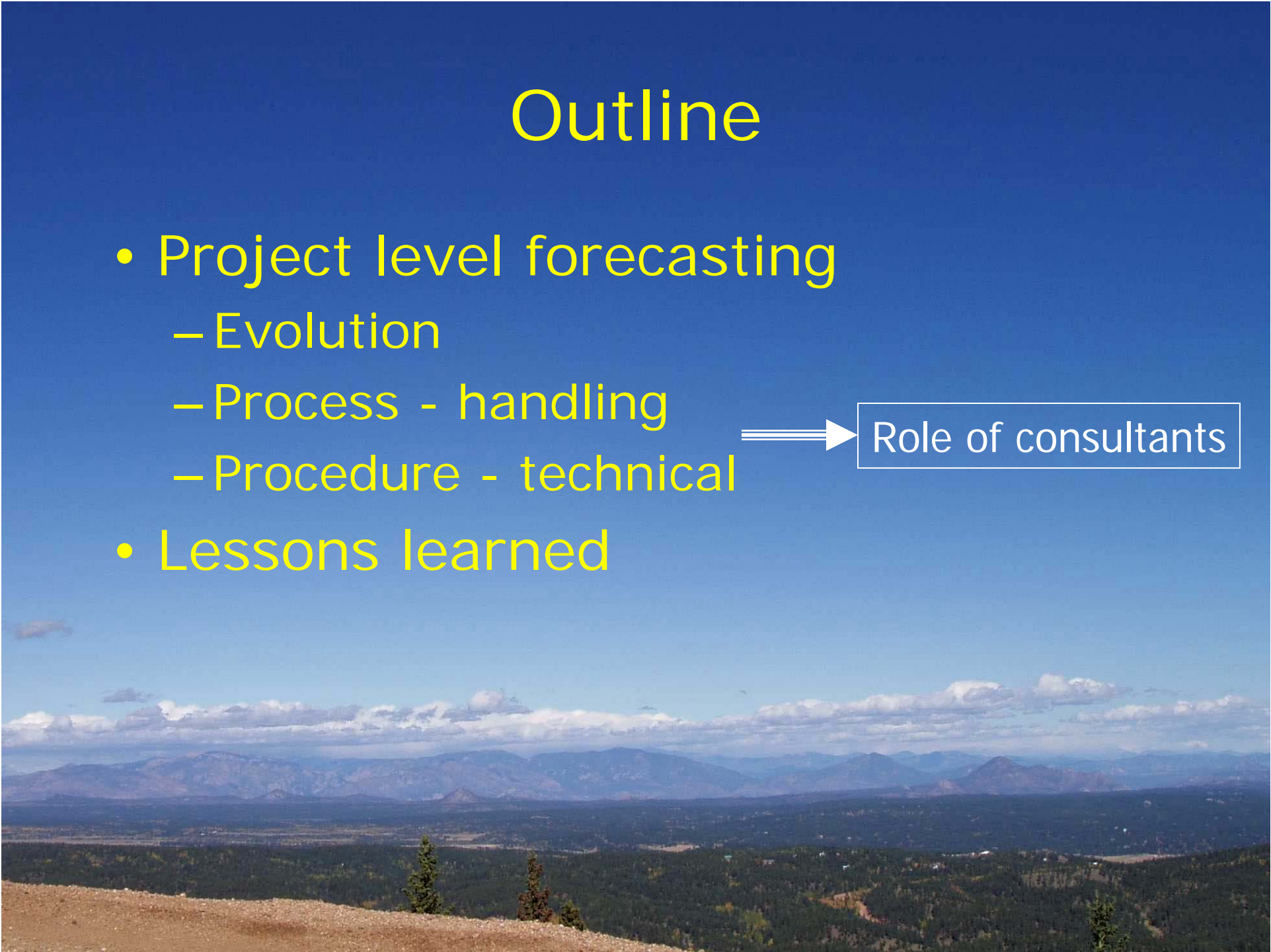
- Planning in North Carolina
- Modeling in North Carolina
 - Past
 - Present
 - Future



Outline

- Project level forecasting
 - Evolution
 - Process - handling
 - Procedure - technical
- Lessons learned

⇒⇒⇒ Role of consultants



Transportation Planning

- 78,000 miles of roads
- Responsible for project forecasts
- 17 MPOs
 - 3 Regional models (9 MPOs)
 - 8 Individual models



Branch
Manager
TED I

Staff Engineer
TSE III

Admin
Officer

Admin
Staff

Admin
Staff

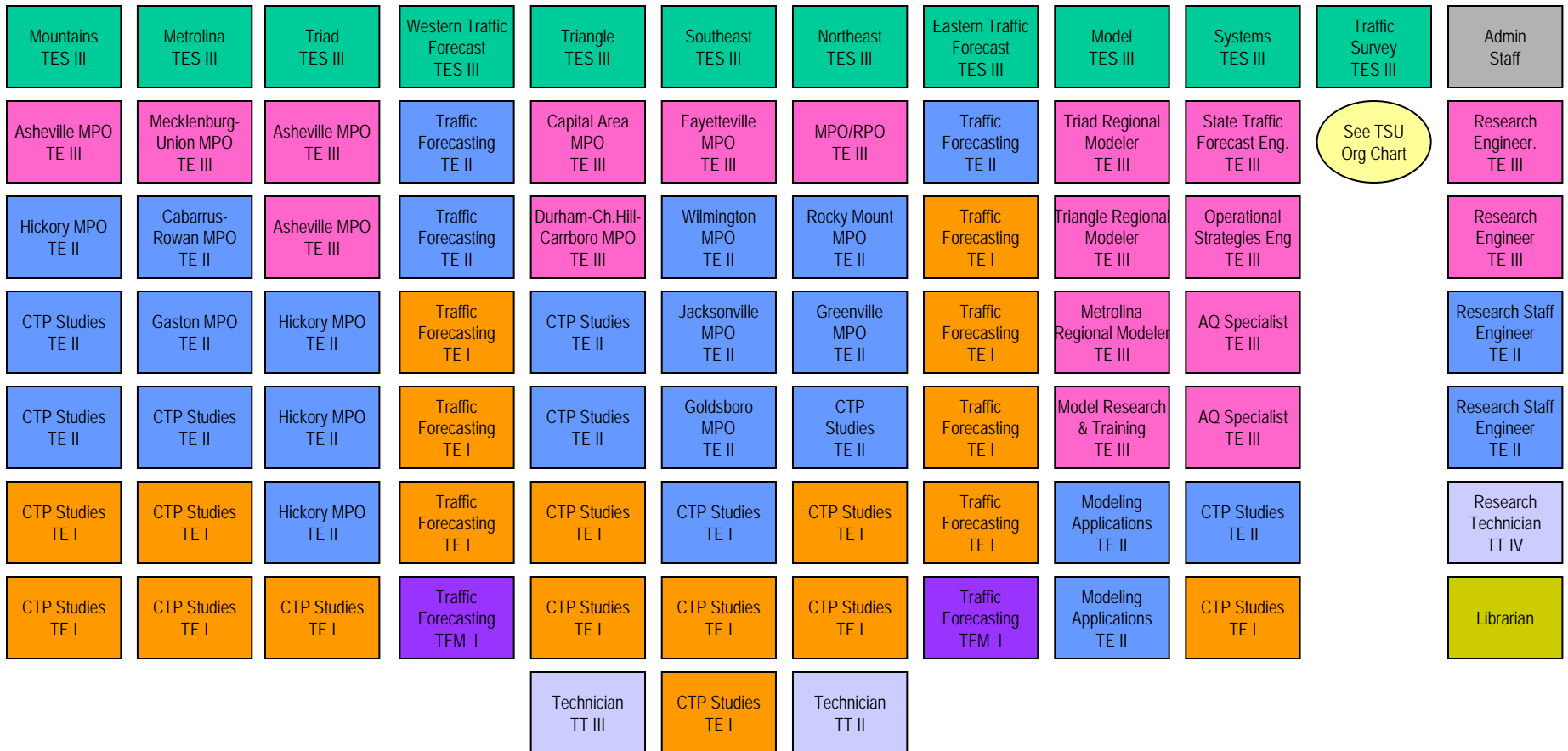
Admin
Staff

Western Unit
TEM I

Eastern Unit
TEM I

Technical
Services
TEM I

Research &
Development
TEM I



Travel Demand Modeling

The Past

- 70's - 80's
 - NCDOT - model expert
 - MPO - land use expert
 - TranPlan
- Into the 90's
 - CHANGE WAS A COMIN'



Changing Times

Nationally

- ISTEA
 - more requirements
 - regular updates
- Air Quality conformity
- Travel demand modeling



Changing Times

North Carolina

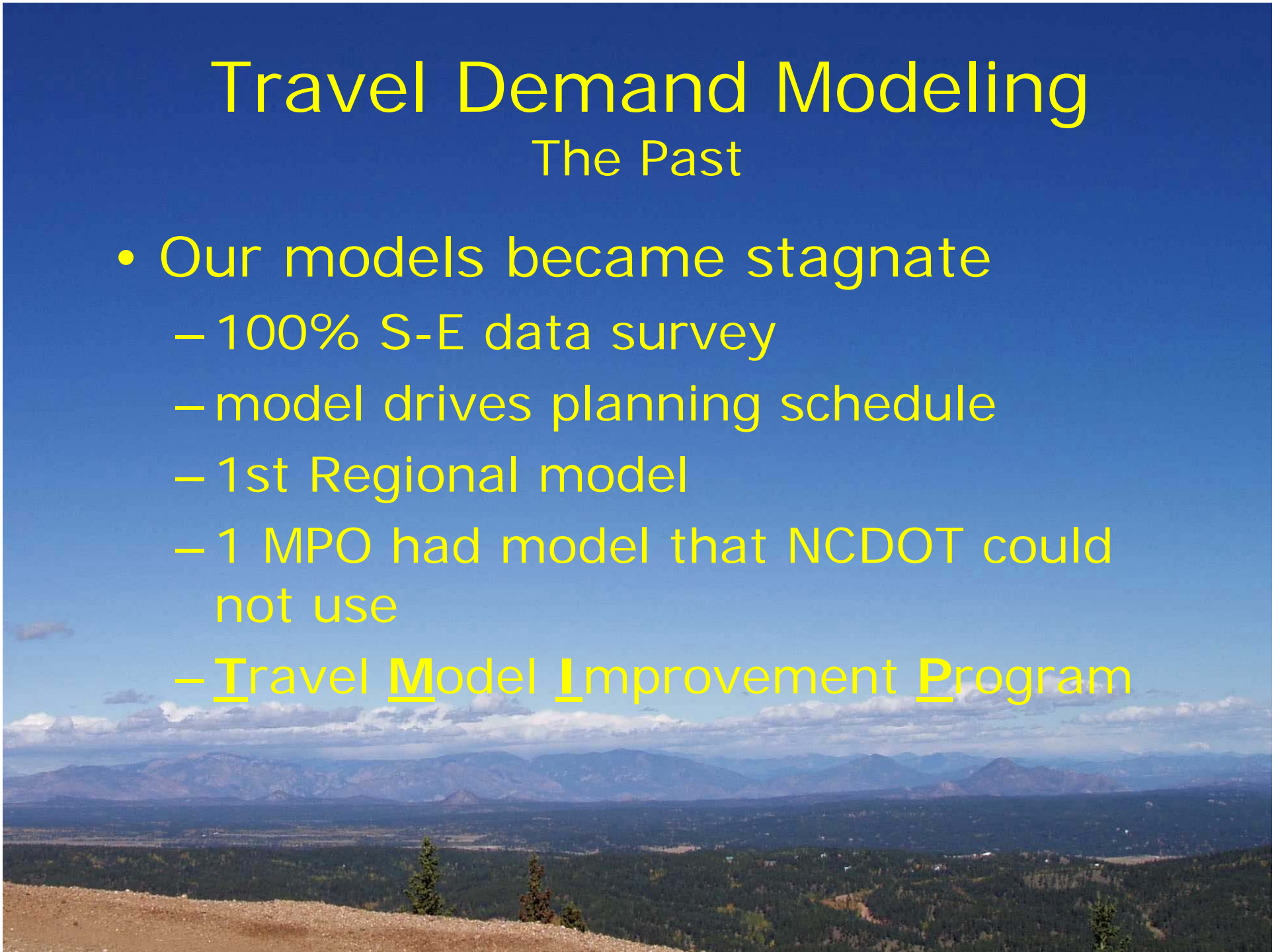
- Planning staff spread thin
- Project level traffic forecasts
- High growth
- Staff turnover...and over...and over



Travel Demand Modeling

The Past

- Our models became stagnate
 - 100% S-E data survey
 - model drives planning schedule
 - 1st Regional model
 - 1 MPO had model that NCDOT could not use
 - T r a v e l M o d e l I m p r o v e m e n t P r o g r a m



Travel Demand Modeling

The Present

- TransCAD
- Different types of models
 - regional models
 - 4-step (minus mode split) models
 - hand allocation and trend line



Travel Demand Modeling

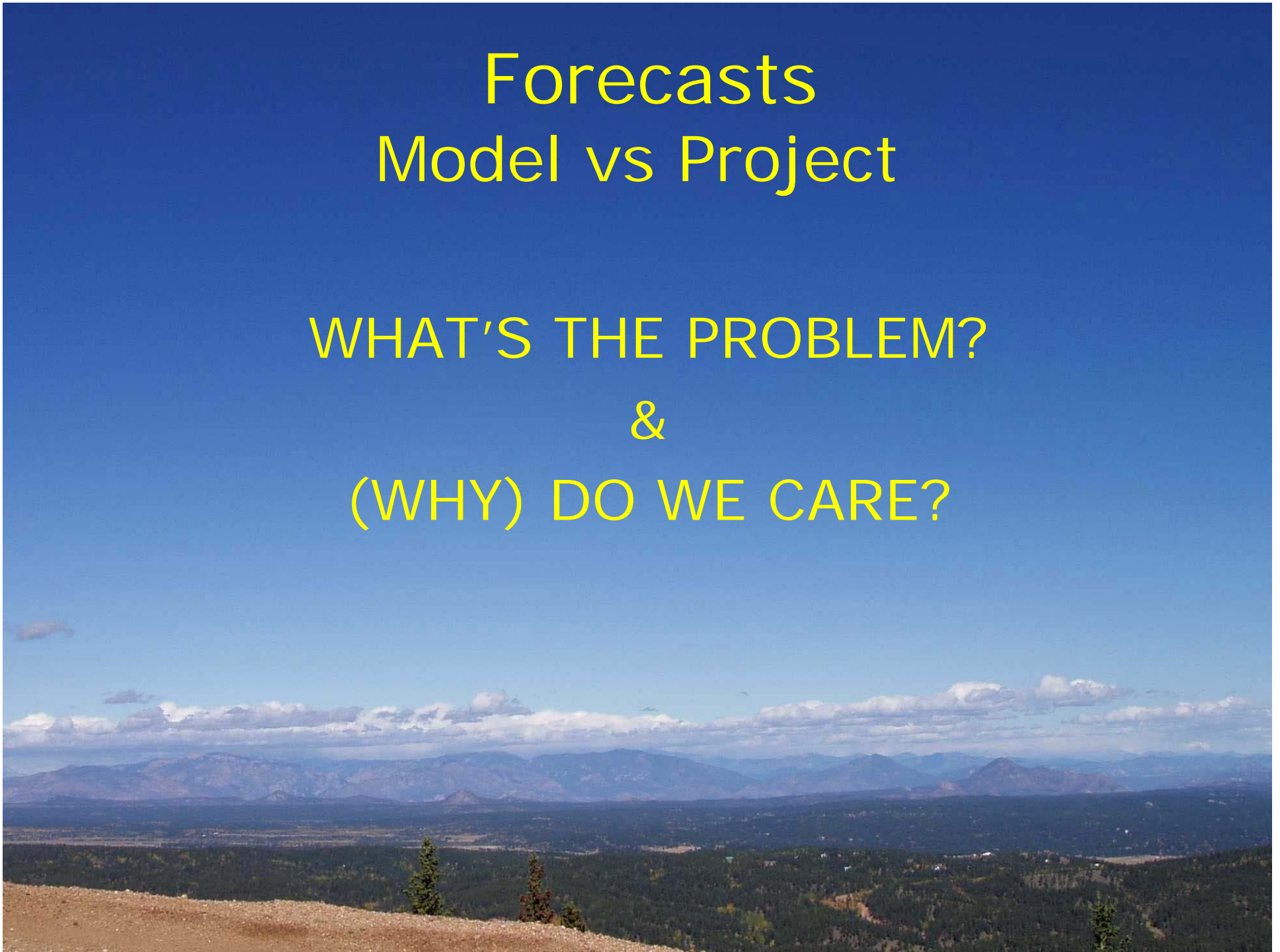
The Future

- Different tool for different needs
 - regional models
 - standard 4-step models
 - quick response (under development)
 - manual allocation
 - trend line

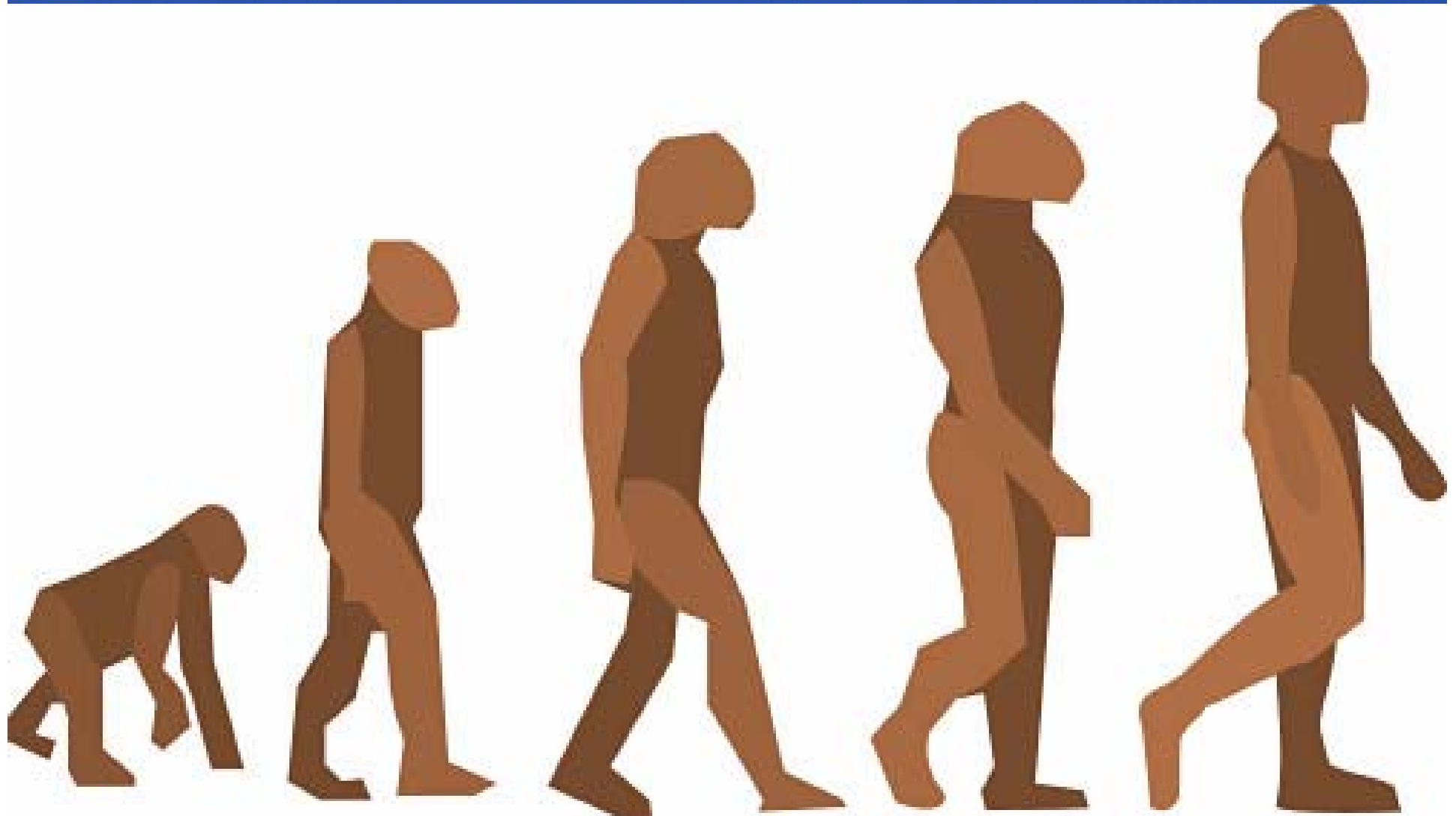


Forecasts Model vs Project

WHAT'S THE PROBLEM?
&
(WHY) DO WE CARE?



Project Level Traffic Forecast Evolution



Project Level Traffic Forecast

Process

- **Request is made**
- Communicate with Requestor
- Official Review
- Distribution



Request is Made

- Tracking
 - status
 - assignment
- Coordinate with Groups
 - review work load
 - analysis tool (model)
 - project history



Request is Made

- Assignment
 - Planning Group
 - Forecasting Group
 - Consultant



Project Level Traffic Forecast

Process

- Request is made
- **Communicate with Requestor**
- Official Review
- Distribution



Communicate with Requestor

- State Traffic Forecast Engineer
- Forecaster
 - bridge project 5 months
 - simple widening 6 months
 - major widening/new location > 6 months



Project Level Traffic Forecast

Process

- Request is made
- Communicate with Requestor
- **Official Review**
- Distribution



Official Review Internal

State Traffic Forecast Engineer

AND

Forecast Group to Planning Group

OR

Planning Group to Forecast Group



Official Review
Private Engineering Firm

State Traffic Forecast Engineer

AND

Forecast Group

AND

Planning Group



Project Level Traffic Forecast

Process

- Request is made
- Communicate with Requestor
- Official Review
- **Distribution**



Distribution

- Requestor
- Highway Design
- Project Development and Environmental Planning
- Traffic Engineering
- etc...



Project Level Traffic Forecast

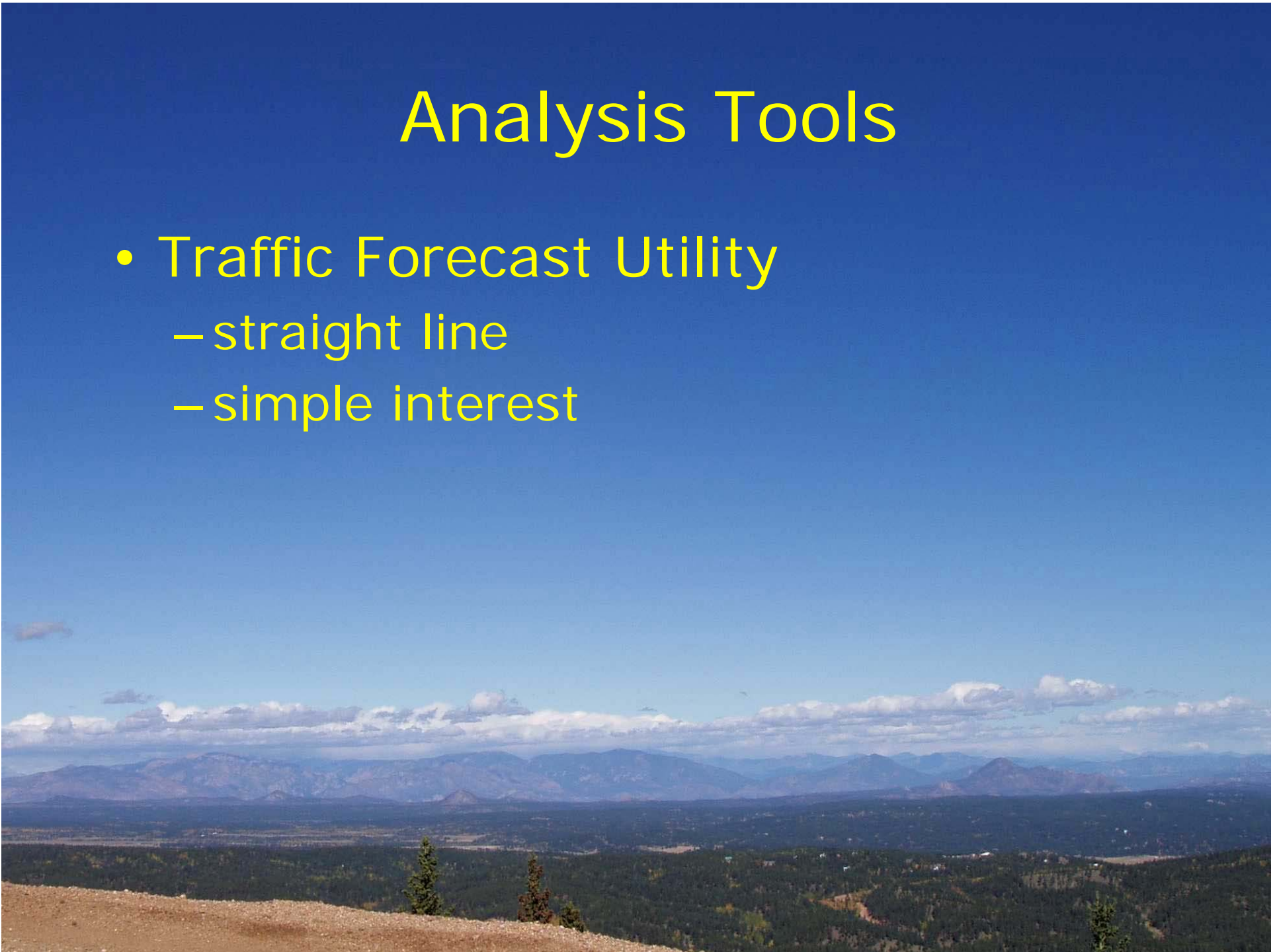
Procedure

- **Analysis tools and data**
- Scenarios
- Documentation
- Resolution of Issues

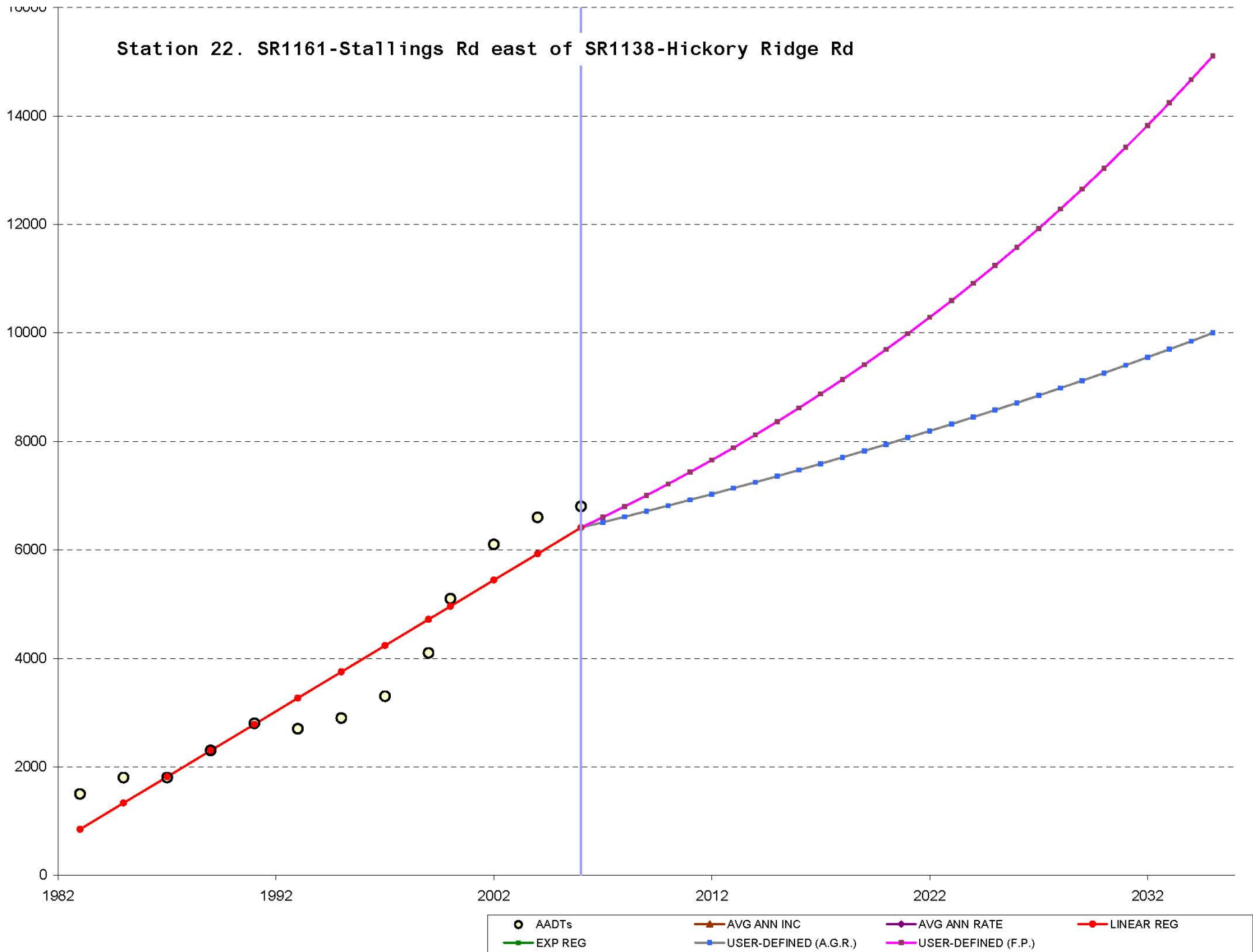


Analysis Tools

- Traffic Forecast Utility
 - straight line
 - simple interest

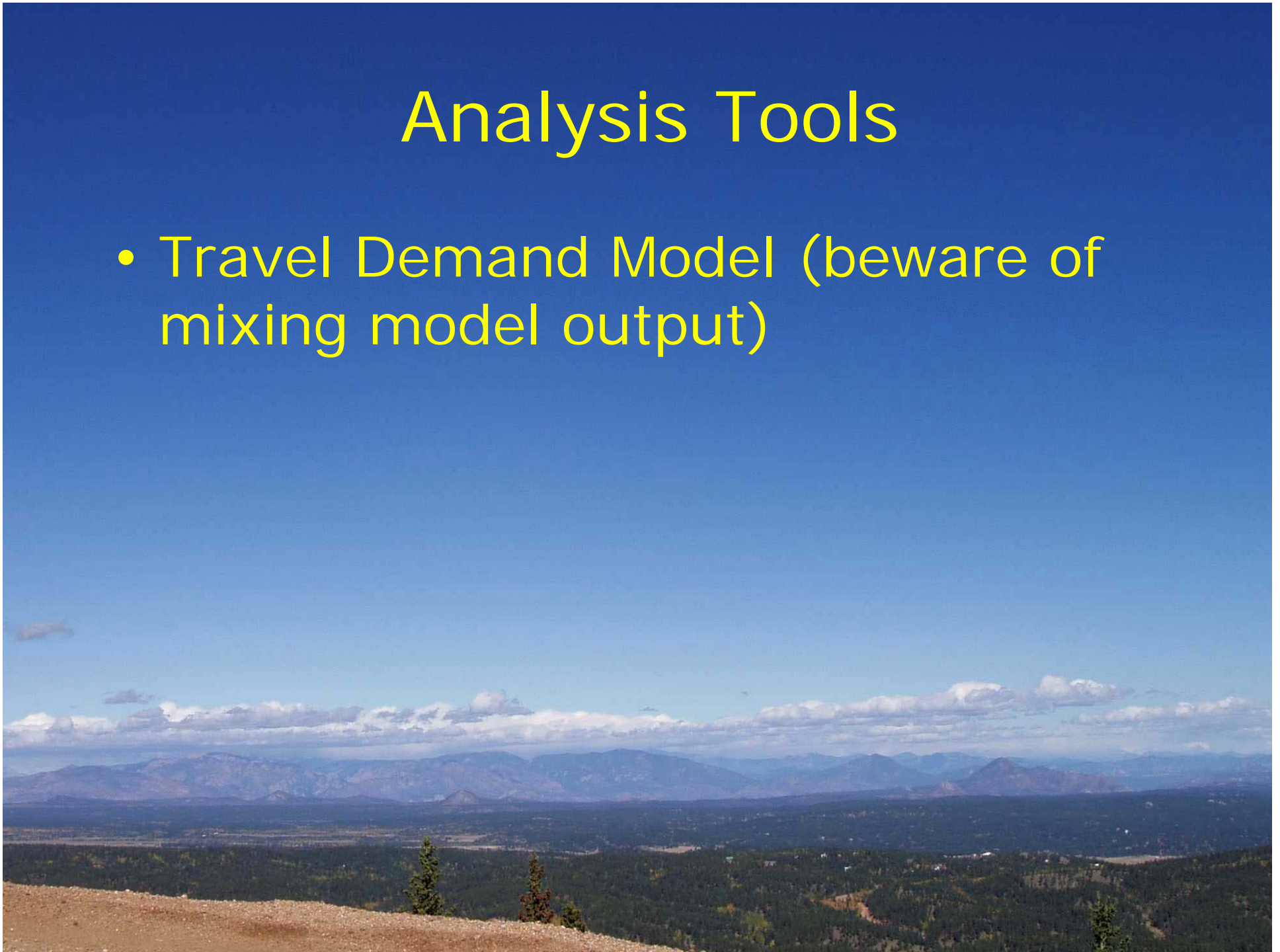


Station 22. SR1161-Stallings Rd east of SR1138-Hickory Ridge Rd



Analysis Tools

- Travel Demand Model (beware of mixing model output)



Project Level Traffic Forecast

Procedure

- Analysis tools and data
- **Scenarios**
- Documentation
- Resolution of Issues



Scenarios

- Base year no-build *
- Base year build
- Future year no-build
- Future year build *
- Other alternatives

* Required Scenario



Project Level Traffic Forecast

Procedure

- Analysis tools and data
- Scenarios
- **Documentation**
- Resolution of Issues



Documentation

If the goal were inconsistency - we would win the gold!

- Planning Group - random
- Forecast Group - better - standard outline
- Consultants - good - establishing expectations and standards



Project Level Traffic Forecast

Procedure

- Analysis tools and data
- Scenarios
- Documentation
- **Resolution of Issues**



Resolution of Issues

- State Traffic Forecast Engineer



Model vs Project

- Why are they different?
 - assumptions
 - outputs
 - use
- Who cares?
 - public



Model vs Project

- What can we do?
 - better labeling/education
 - documentation
- How is NCDOT doing?
 - getting better and heading in the right direction





Model & Project - Forecasts at Peace

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