



CAMBRIDGE
SYSTEMATICS

Think  Forward

Teton County Travel Model

Model Application for the Tribal Trail Extension

presented to

Tribal Trail Stakeholder Committee

presented by

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Outline

- Travel Model 101 (recap)
- Forecast Year Data & Assumptions
- Model Application for Tribal Trail
- Next Steps

Travel Modeling 101 – Recap

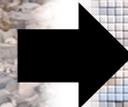
What is a Travel Demand Model?

- A **tool** to provide travel information that can aid in planning for transportation improvements
- A way of **organizing your assumptions**
- A program that can "predict" existing travel demand and forecast travel demand for future scenarios

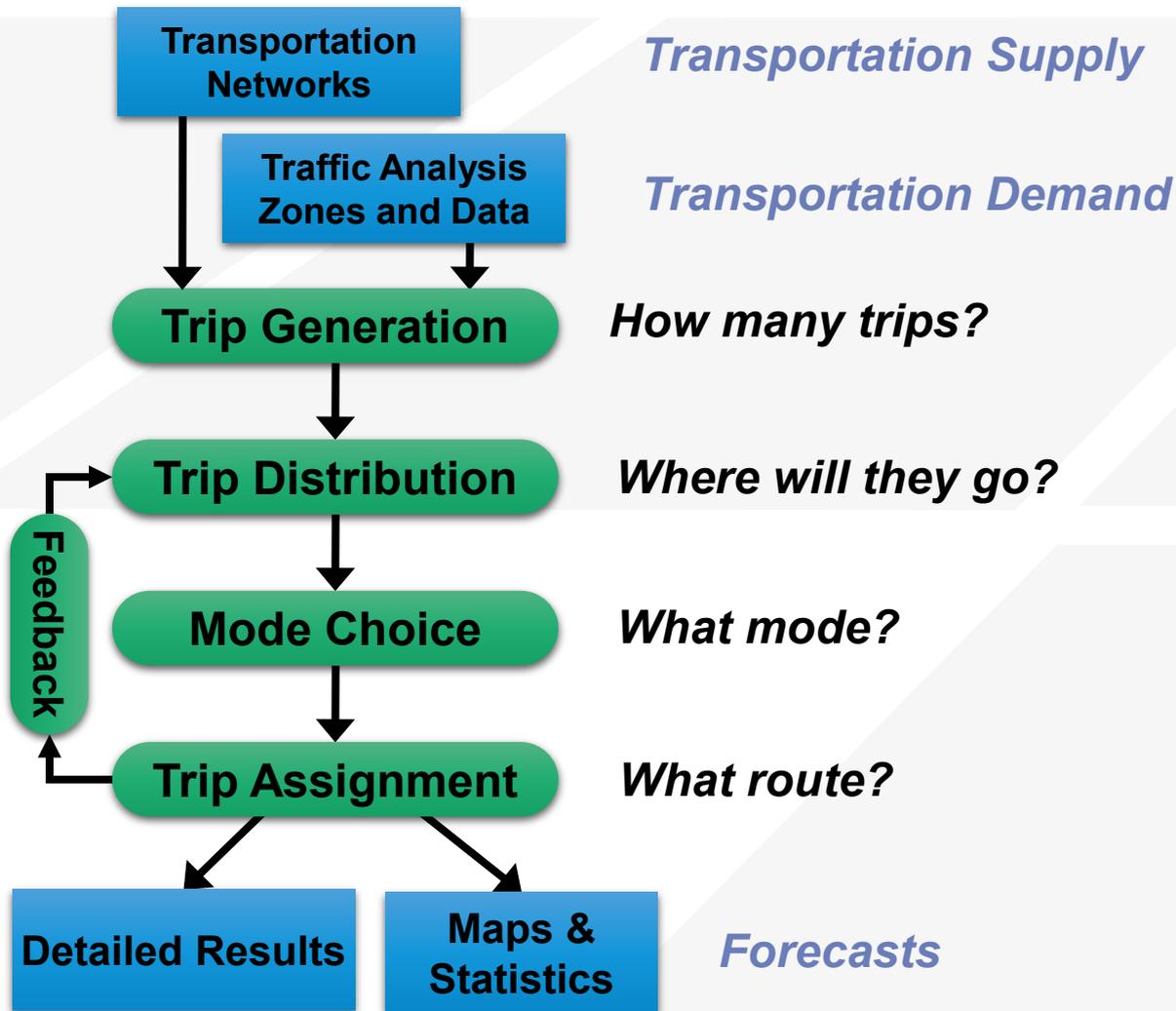
Real world



Modeled World



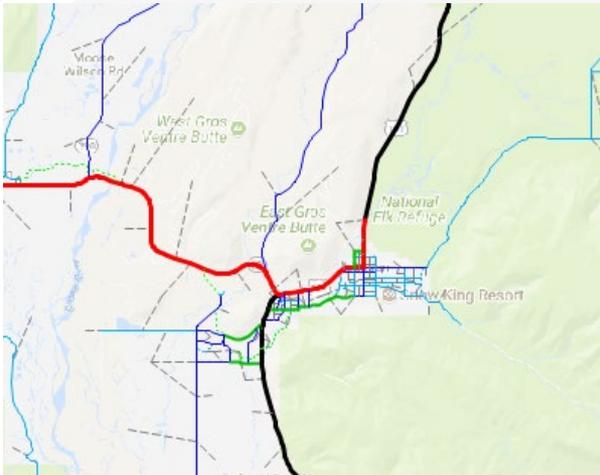
The Four Steps



Key Terms

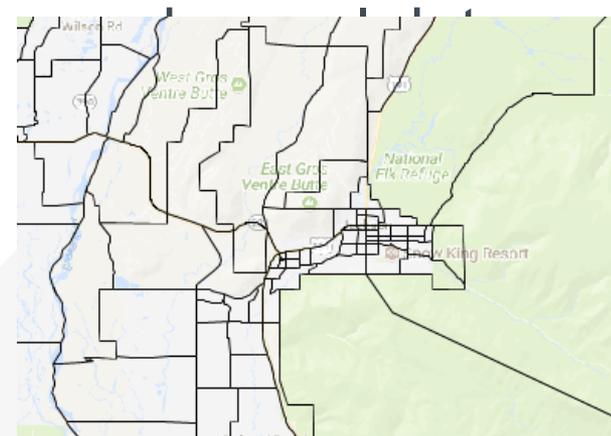
➤ Network

- » Roadway system
- » Transit system
- » Bike facilities



➤ Traffic Analysis Zones (TAZs)

- » Represent **households and jobs**
- » Based on Census



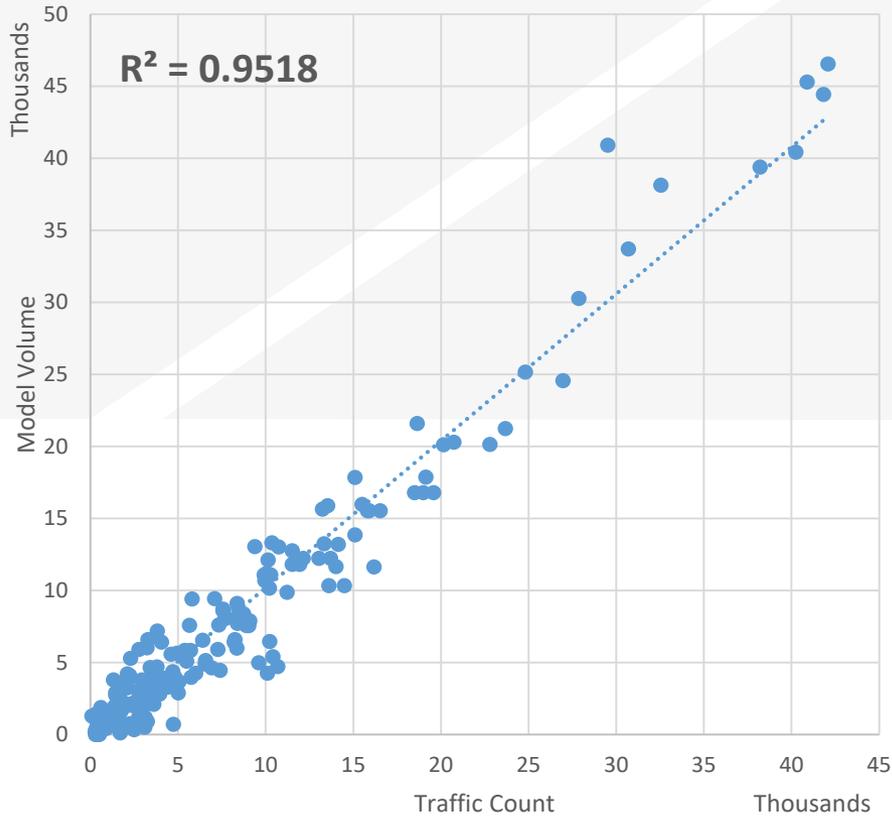
Model Validation

- Overall model volumes within 1% of total counts
- Match industry standard validation metrics
 - » Root Mean Square Error
 - » Count/VMT Ratios
 - » R-Squared Values
- Margin of Error
 - » Traffic counts vary from day to day, week to week
 - » Travel model represents an **average weekday** in the summer, winter, or off-peak season

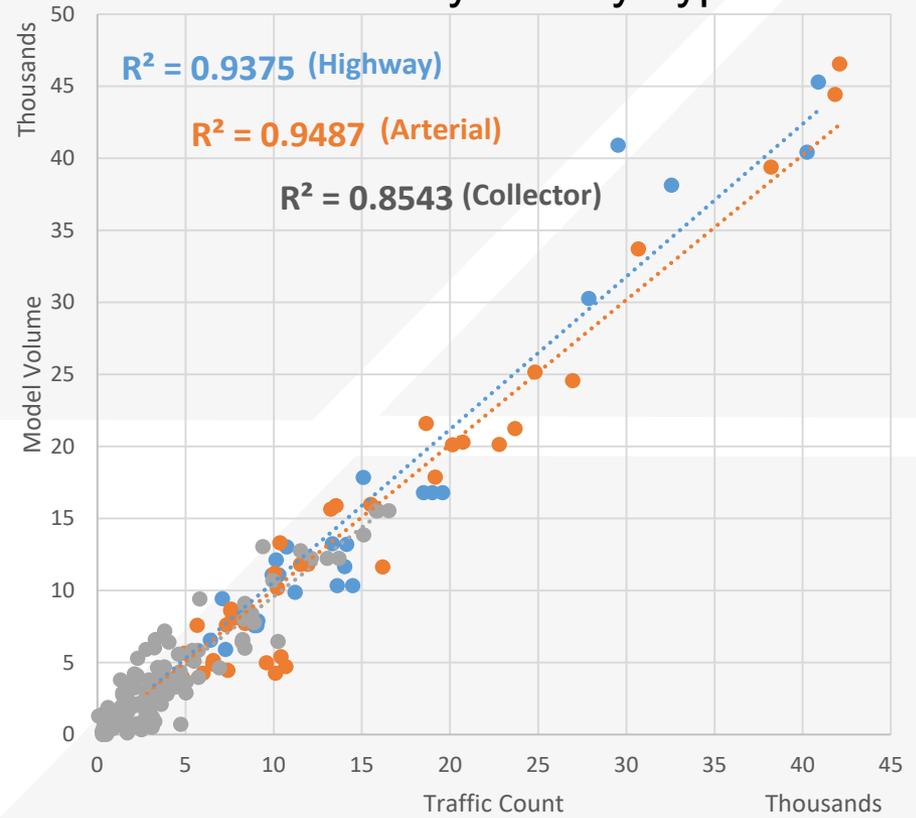


Model Validation

Overall Validation



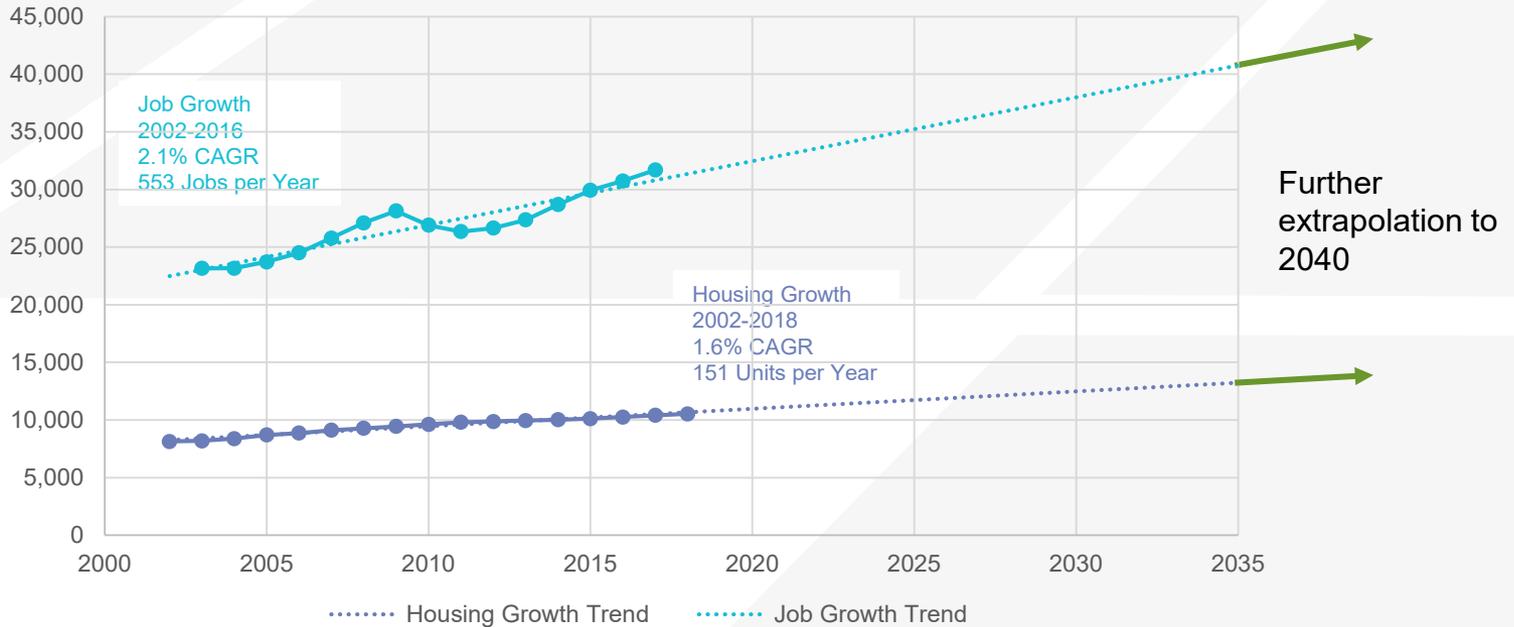
Validation by Facility Type



Forecast Year Data & Assumptions

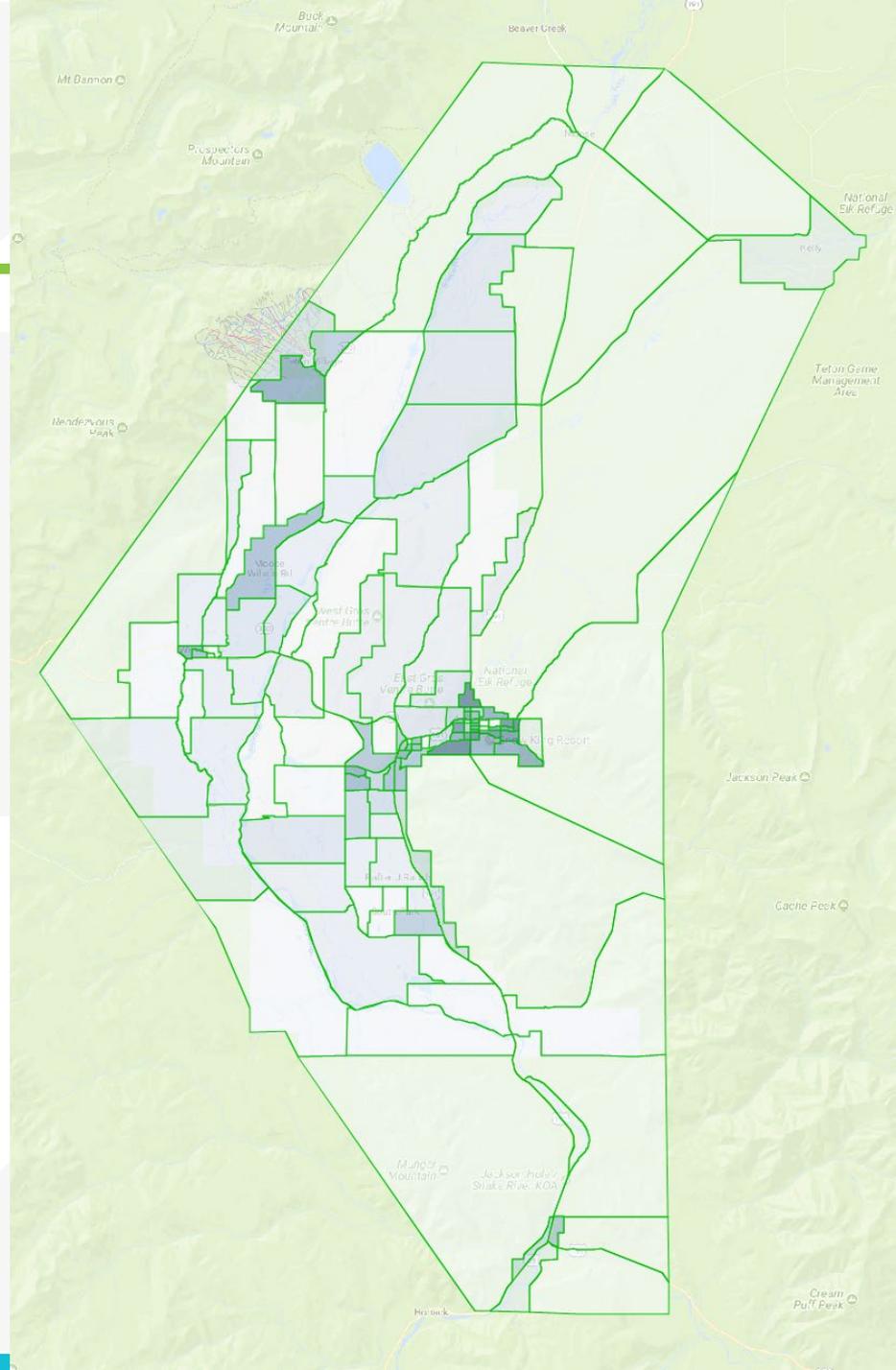
How Was Growth Projected

Jobs, Housing Growth Projection



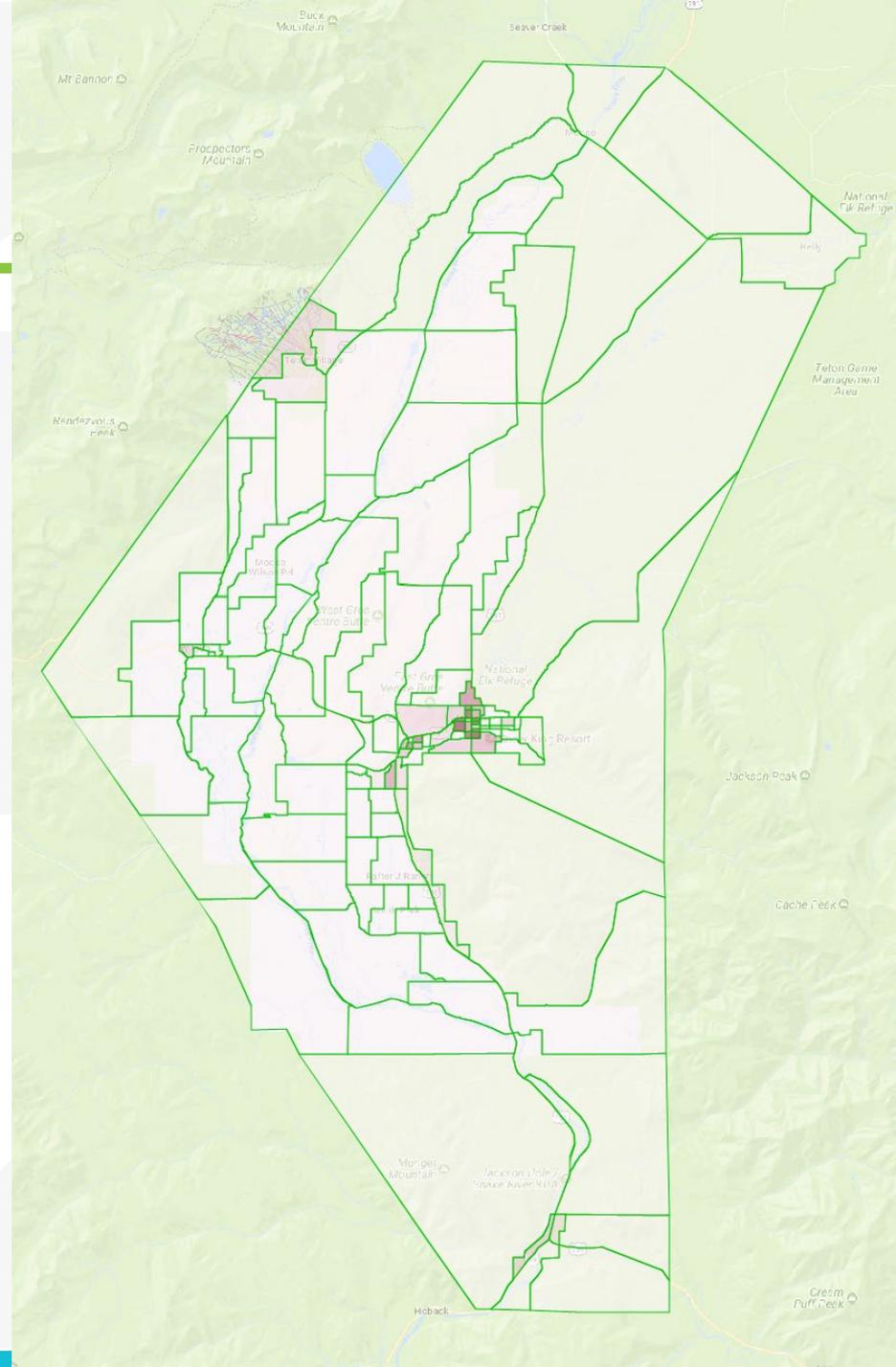
Household Growth by TAZ

- ➔ Map shows **new** households per acre
- ➔ Generalized broad-brush assumptions
- ➔ Shown at the TAZ level



Employment Growth by TAZ

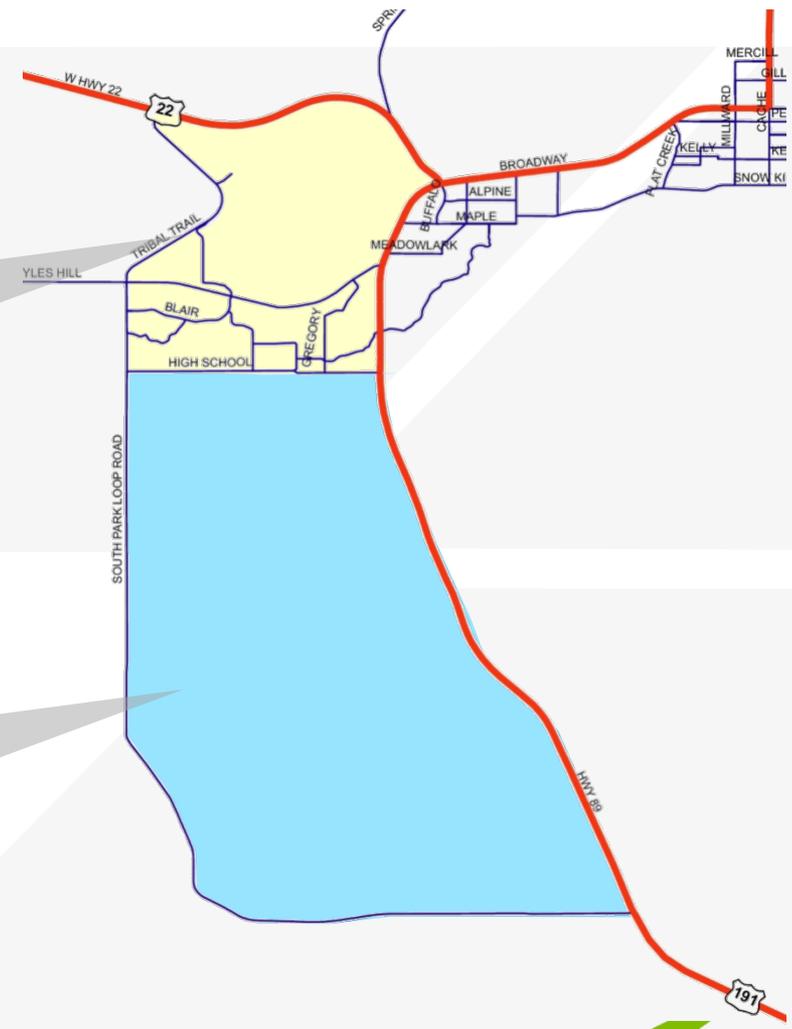
- Map shows **new** employees per acre
- Generalized broad-brush assumptions
- Shown at the TAZ level



Local Households, Jobs, & enrollment

| | Existing | 2040 |
|------------|----------|-------|
| Households | 1,136 | 1,314 |
| Employment | 1,430 | 1,921 |
| Students | 1,237 | 2,347 |

| | Existing | 2040 |
|------------|----------|-------|
| Households | 1,123 | 1,281 |
| Employment | 607 | 607 |
| Students | 654 | 1,240 |



Testing Land Use Scenarios

- Changes in **Households, Employment, or School Enrollment**
 - » Baseline forecasts as described above
 - » Changes can be tested at the **TAZ level** for individual zones or groups of zones
- Changes need to be significant
 - » Roughly 100+ households, employees, or students

Model Application – Tribal Trail Road Extension

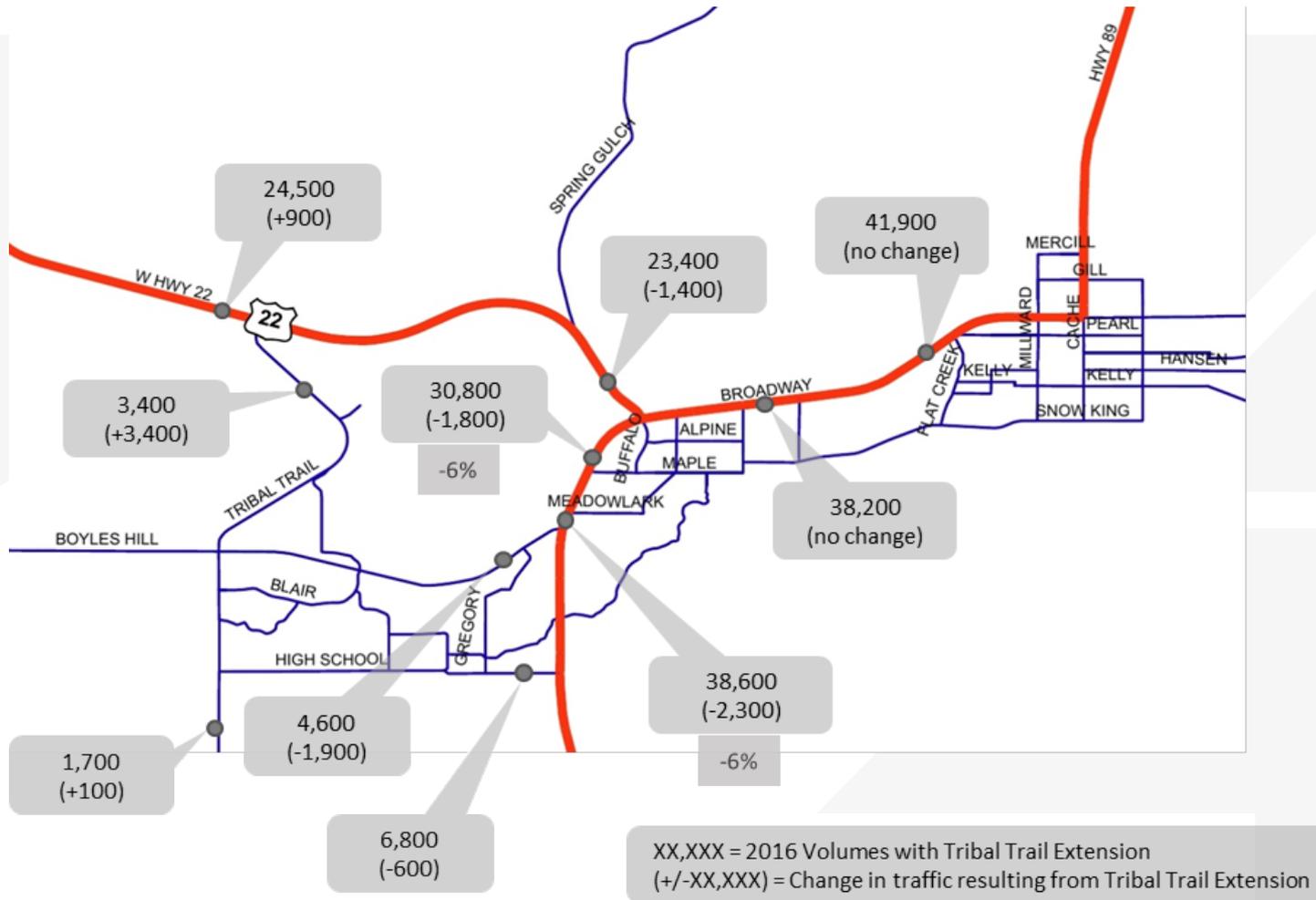
Tribal Trail Road Extension *Project as Modeled*

- Extend collector to connect to WY-22
- Speed and capacity characteristics identical to the existing Tribal Trail section
 - » Collector Street
 - » Speed Limit 35



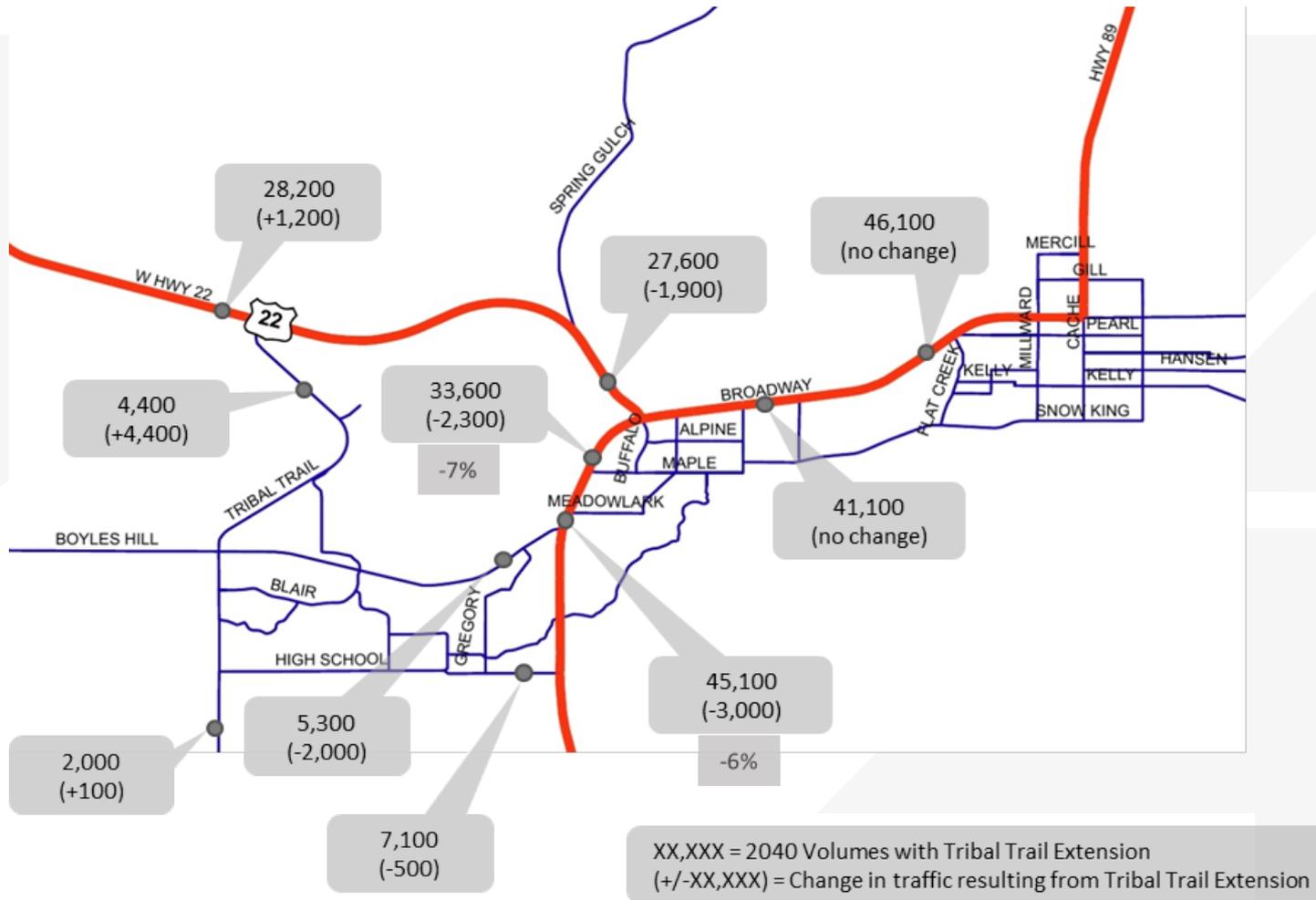
2016 Analysis

Change in Traffic



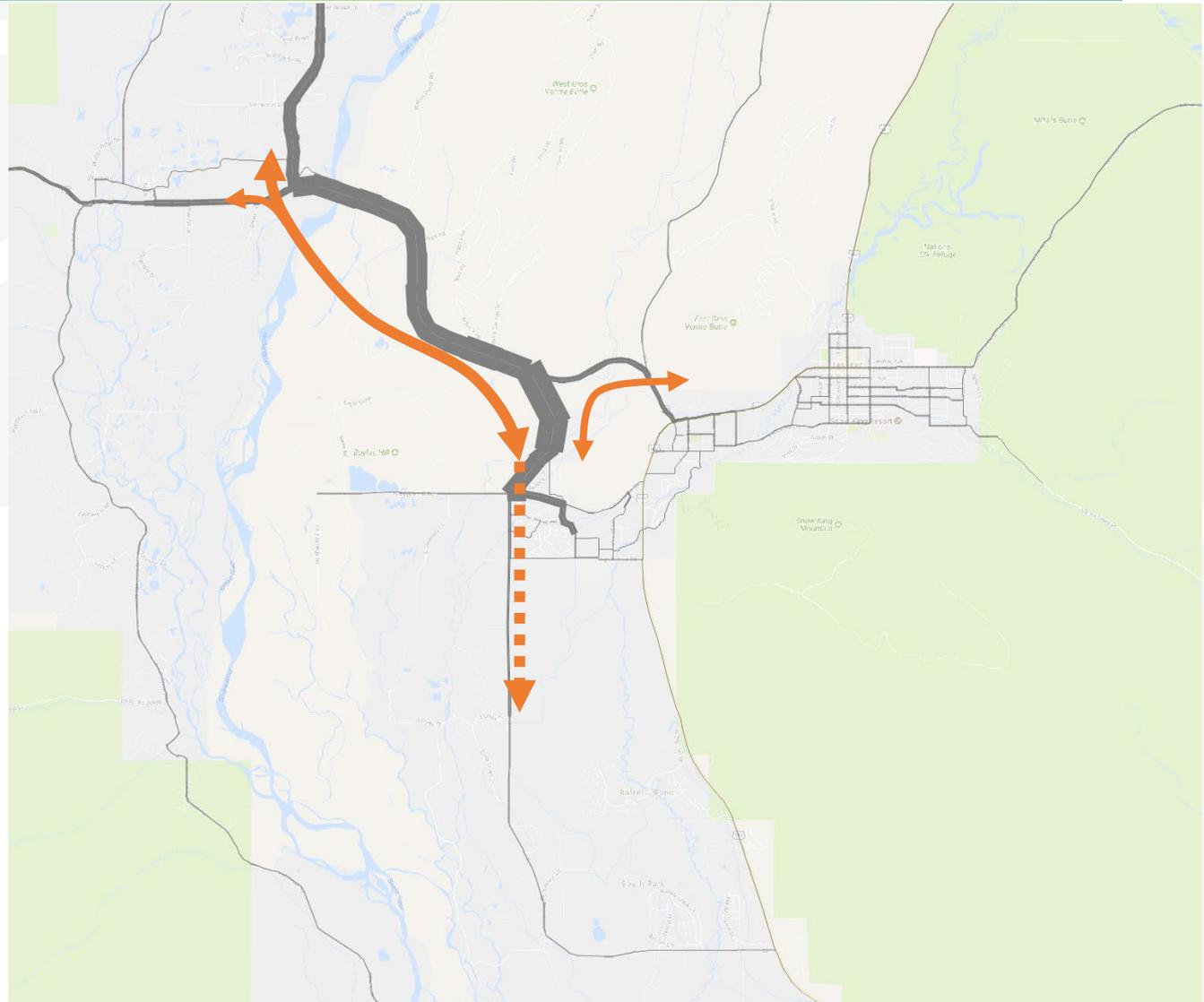
2040 Analysis

Change in Traffic



Tribal Trail Road (2040)

Who uses the new extension?



Next Steps

Next Steps

➤ More Information

- » Analyze change in vehicle miles traveled (VMT)
- » Consider potential land use changes

➤ Simulation Model

- » Detailed operational analysis
- » Intersection/interchange design
- » Access alternatives
- » Traffic calming and intersection control



Thank You