

Sustainable Places Analytic Tool

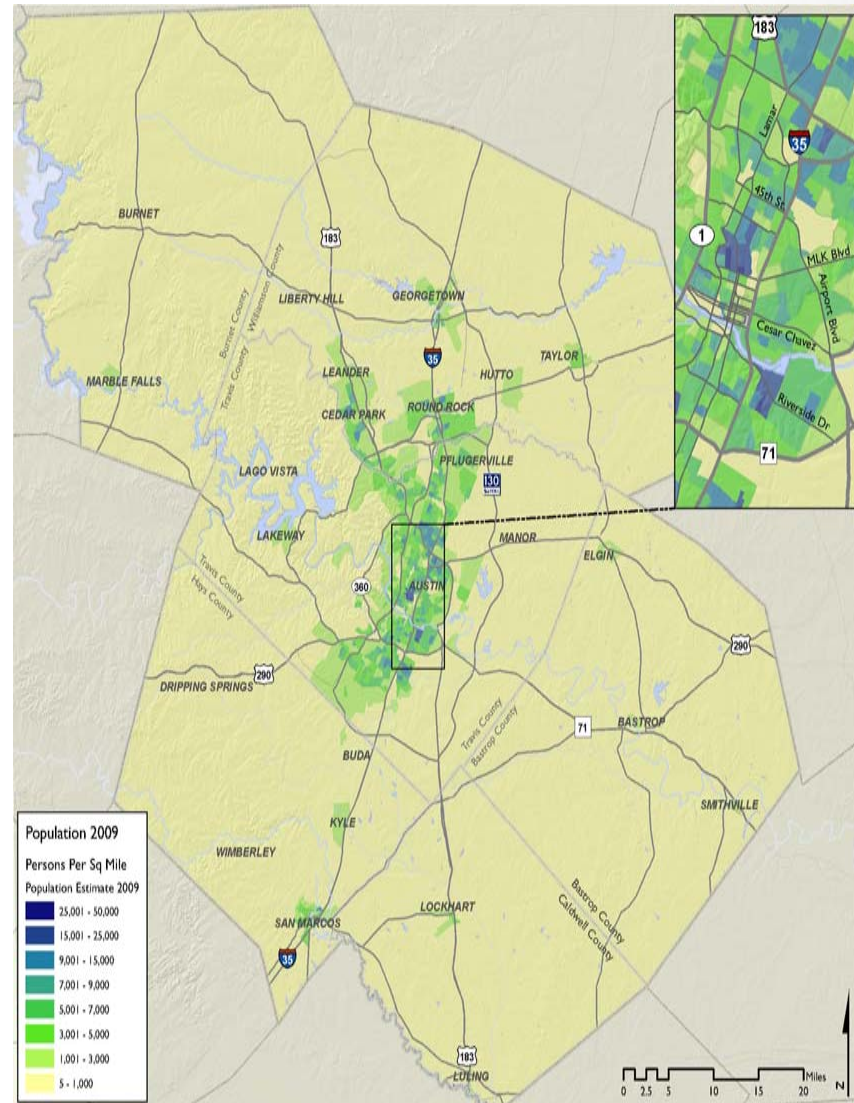
University of Texas at Austin
Center for Sustainable Development



What is the analytic tool?

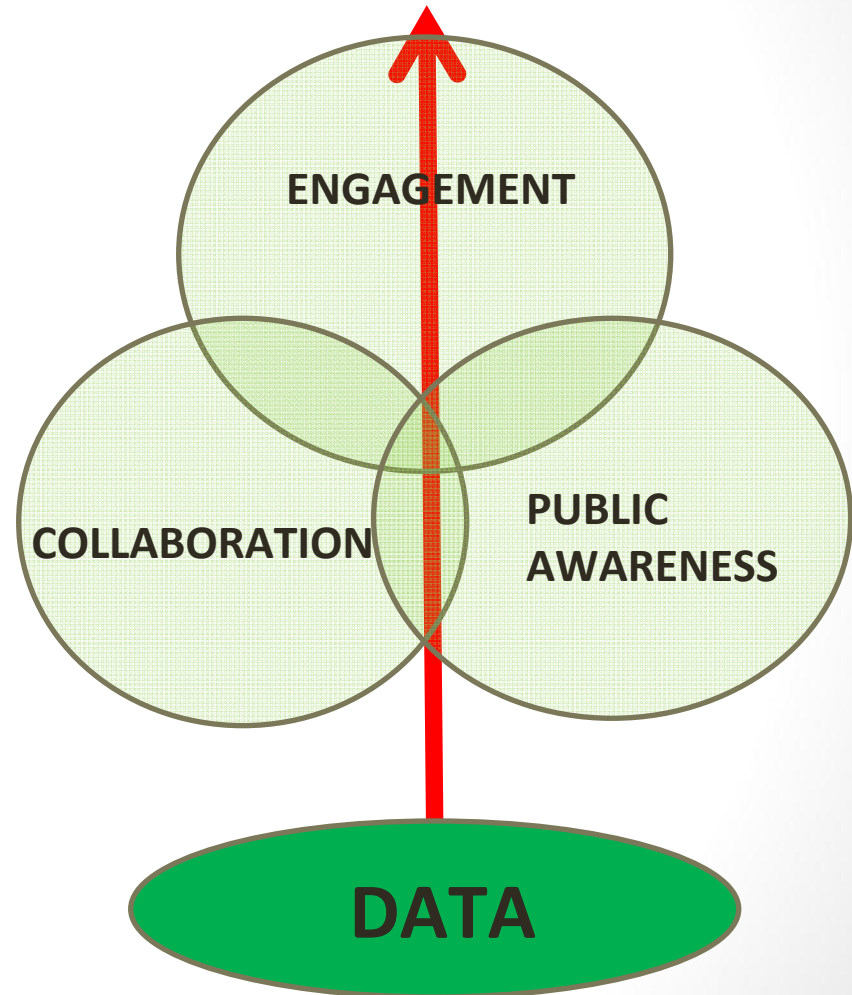
The CATS Consortium will work with the UT Center for Sustainable Development and IBM to:

- Develop a software tool and analytics that help the region forecast and calibrate its investments, measure ongoing return on those investments and effectively manage public resources and programs.



What will the analytic tool do?

- Provide a software solution
- Establish a standardized language
- Show the “push-pull effects” of decisions
- Provide information to decision makers
- Demonstrate how livability can be pursued with choices that protect and improve upon Central Texas’ diverse communities



Analytic Tool Workgroup

University of Texas

Bob Paterson, PI

Barbara Wilson

Jim Walker

Michael Oden

Elizabeth Mueller

Ming Zhang

Sarah Wu

City of Austin

- **Greg Kiloh, Project Manager**
- Kevin Johns
- Volunteers

IBM

- Bill Glendenning
- **Raj Balasubramanian, Lead Architect**
- Judith Ryan
- **Peter Bahrs, Technical Executive**
- Scott Yaworski
- Specialists

CATS – Solution View

Users



Planners



Legislators



Public



Federal Govt Officials

CATS Analytic Tool

Core Analytics & Insight

GIS Support Mashups

Active reporting Ondemand updates

Metrics Data cubes Scorecards

Dashboard View Data import

What if analysis Personalization

Adhoc query Basic Statistics

Collaboration

- > Annotate and comment
- > Publish to consumers
- > Template based
- > Collective Intelligence
- > Widget based
- > Customizable

Data Input

CAPCOG

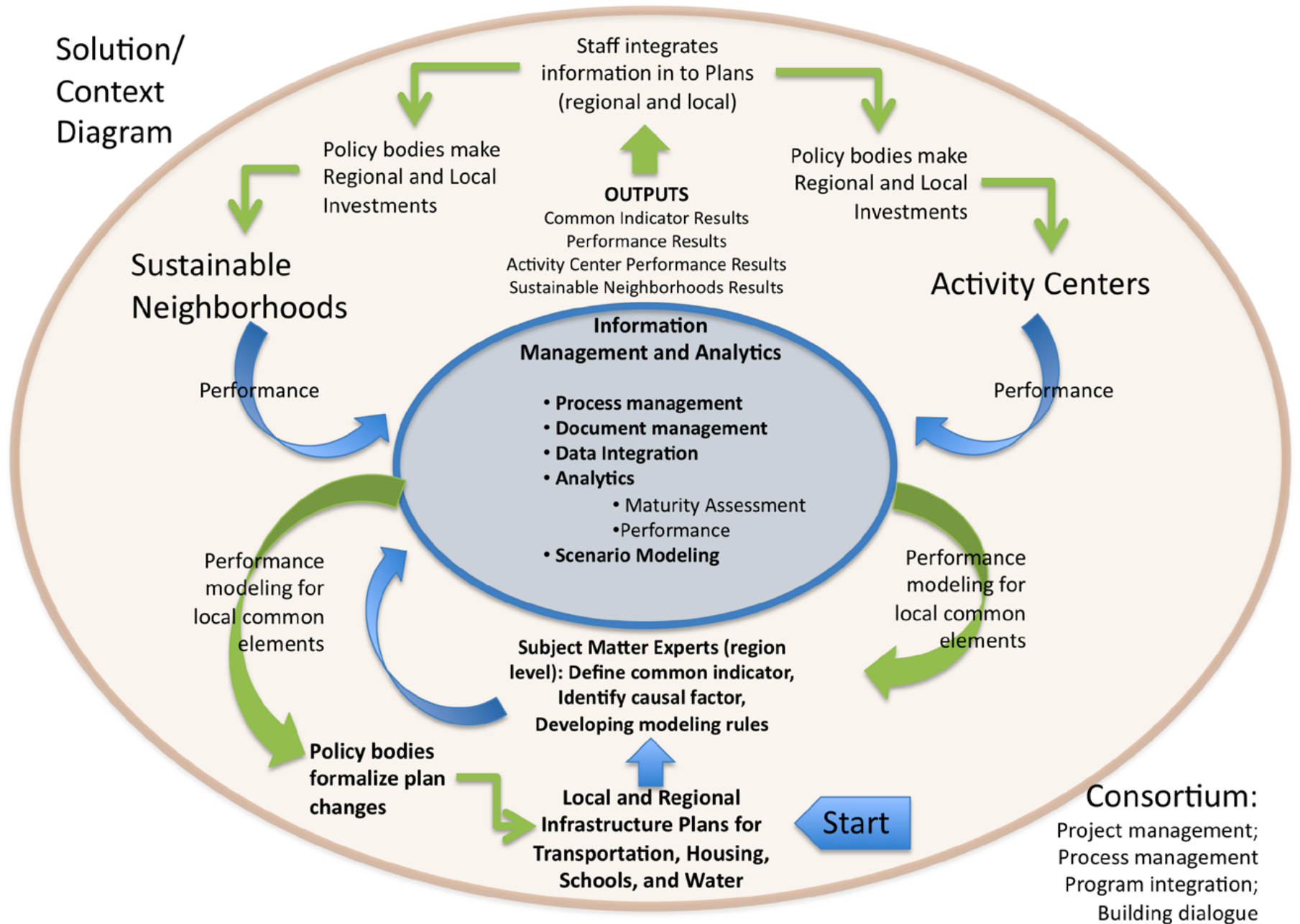
CAMPO

Models & SME Input From UT

External Data

Social Web Data

**Solution/
Context
Diagram**



DRAFT web interface

CATS Analytic Tool - Mozilla Firefox: IBM Edition

File Edit View History Bookmarks Tools Help

https://catstool.capcog.org

CATS Analytic Tool

40 Capital Area Council of Governments
Serving Bastrop, Blanco, Burnet, Caldwell, Fayette, Hays, Lee, Llano, Travis, and Williamson Counties

YEARS OF REGIONAL LEADERSHIP
1970 - 2010

Holistic Overview Economy Environment Equity Quick Search Help

Dashboard View for John Doe, Chief Planning Officer

Sustainability Indicators

Location	Current	Previous
Pflug	71	69
Southridge	82	79
Northridge	84	81
GPU 64th	85	82
GPU 82th	70	67

Regional Scorecard

	Projected	Current	Target
Property Tax Index	80%	85%	80%
Air Quality Index	100%	98%	90%
Health Benefit Index	95%	86%	80%
Walkability Index	89%	91%	90%

Activity Center Comparison

	Elgin	Bastrop
New Jobs	27,781	12,306
New Grocers	3	3
Type	Suburban	Suburban
AvgDist to grocery	1.5mi	1.2mi

Progress of Elgin Activity Center

View list by: --Select--

Type	Name	Metric	Trend	Activity
ECON	Total New Jobs	27,781	▲	Local establishment expanding
ECON	Total Retail Jobs	12,000	■	New Target Opened
SOC	Kids Playground	2	▲	Developers built play area in neighborhood
HLT	Health Providers	14	■	Primary care and alternative health providers

Alerts

Most Recent

- Whole Foods expands into Smithville
- Changes in local leadership at Elgin
- IBM wants to expand jobs in Austin
- Sunny forecast for upcoming season
- UT expands their CSD

Housing Indicators

Percent Region-wide Housing Affordable to Income Groups

Category	Current	Projected
below 50% Median Income	~35%	~35%
50-90% Median Income	~15%	~25%

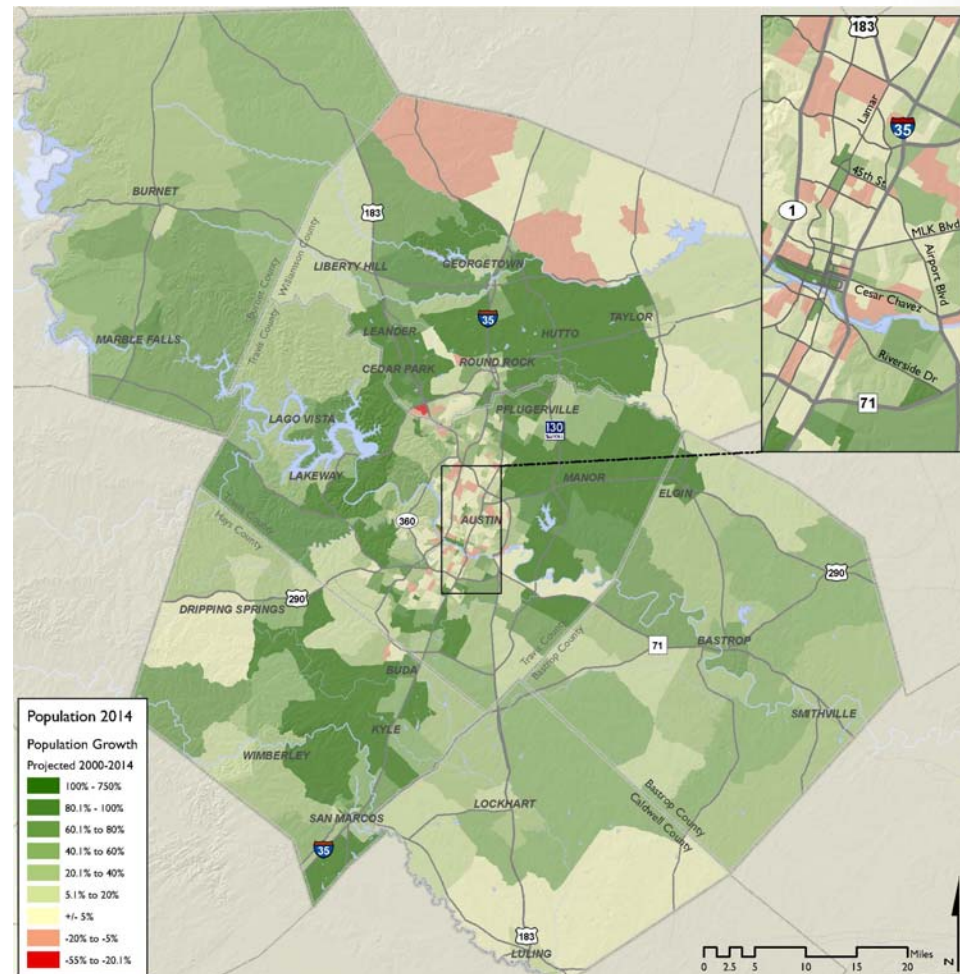
Upcoming Activities

Date	Description
1-24	AlleyFlat opening in Manor
2-13	TX Green Housing Project in Austin
2-15	UT CSD Outreach at Roundrock
2-24	CATS for City Planners-Basic
3-12	CATS for City Planners-Advanced
3-30	CATS Tool version 2.0 Overview
3-30	CATS for Public-Basic
10300	Fiscal Dashboards

Done

Next Steps

- Develop variables and analytics at multiple scales
- Determine what metrics matter most in analyzing sustainability and what indicators best communicate the message.
- Calibrate existing cost of community services and fiscal models.

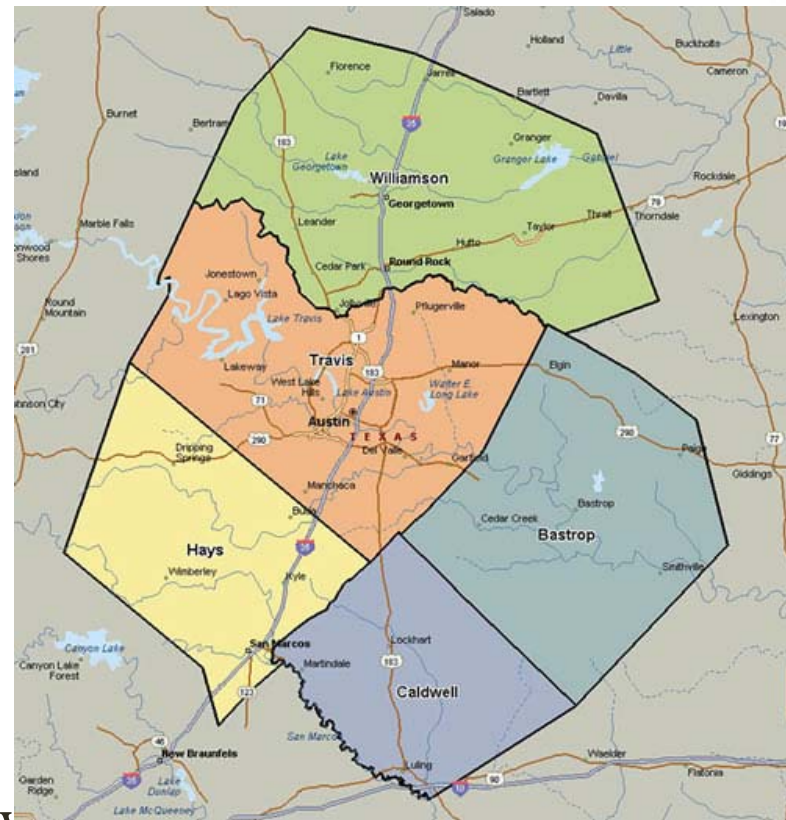


Map courtesy of CTSIP 2009 Data Report

Sample Input Variables

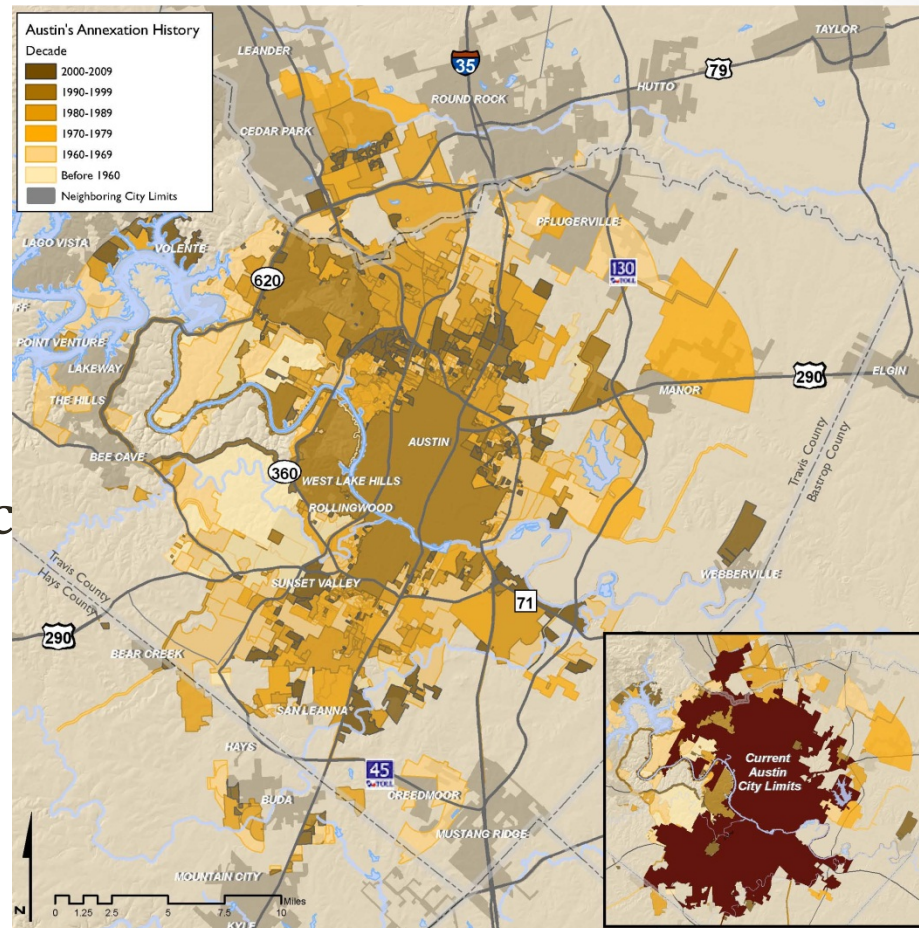
Baseline and Alternative/Activity Centers

- Population Density
- Job Density
- Land Use Mix
- Housing Mix (single – multifamily)
- Economic Diversity (HI)
- Job Housing Balance
- Street Connectivity
- Job Accessibility by Auto
- Job Accessibility by Transit
- Distance to Transit
- Distance to CBD or Major Activity Centers



Sample Outcome Variables

- VMT per capita
- Residential and Commercial Energy Use
- Residential and Non-Residential Water Use
- Service Costs
- Housing Access and Choice (especially affordable housing)
- Housing Plus Transportation Costs
- Etc...



Map courtesy of CTSIP 2009 Data Report

Sample Indicator

HealthScape Impact Assessment Model: the Concept

Use research results on the relationships between

Urban Form Patterns

Residential Density
Land Use Mix
Street Network Connectivity
Retail Floor Area Ratio

and

Outcomes

Physical activity
Obesity / Body Mass Index
CO₂ & pollutants from transport
Transportation patterns

Integrate these findings into an existing model structure

What will the tool do for you?

- Identify highly localized solutions that advance local/municipal sustainability through smart, cost-effective investments.
- Provide a single, common analytic process and language, enhancing coordination and communication.
- Combine region-wide analytics to support the execution of our regional plan and vision for sustainable growth.

