



Development Scenarios

CAC Meeting – May 5, 2011

Mark Landsiedel

Community Development Director

City of Flagstaff

HOW DID WE GET HERE?

- **2009 CAC Retreat** — *visualization of a future community was stated as important*
- **2009/10 CAC Process:**
How to visualize
 - “Activity Centers”?
 - “Appropriate density”?
 - “Green Infrastructure”?
- Decision Theater and Development Scenarios became tools staff investigated to help answer these questions.



HOW DID WE GET HERE?

- **CAC requests** to understand “if we implement policy ‘A’, ‘B’, and ‘C’ – what could happen?”
- **Using Development Scenario Analysis** as a TOOL to...
 - Picture & visualize
 - Overlay measurements
 - Try to understand the ‘whole picture’

HOW DID WE GET HERE?

- Regional Planning funding limited
- Council encouraged grant funding opportunities
- Three grants submitted (*HUD, Healthy Communities, PARA*)
- PARA Grant won (\$250K)
 - Planning Assistance for Rural Arizona
 - Funds which allow for more in-depth analysis



PARA GRANT Scope includes...

- Technical Consultant \$230,000 (PARA funds)
- Public Involvement Consultant \$20,000 (PARA funds)

Total PARA Funds: \$250,000

- ASU Decision Theater \$50,000 (FMPO funds)
- Core Planning Team & CAC *personnel & annual budget*
- Rural Policy Institute \$20,000 (FMPO funds)
- HDR, Inc. \$22,000 (FMPO funds)

Total Other Funds used to match: \$92,000

ASU Decision Theater will give us...

- **DATA** to make informed decisions
- **Element interrelationships** understandable
- **Visualization** for public outreach to prepare for voter ratification



decisiontheater.wordpress.com



sustainability.asu.edu

Why are we doing this?

- How we understand the complex ‘big picture’ of the Regional Plan
- Current process:
 - Open houses (32) and Focus Groups (8) work with ‘groups’ of elements
 - Commission Reviews (*Parks & Rec; Open Space; Tourism; etc.*)
 - Public presentations (*Chamber of Commerce, SEDI, NABA, etc.*)
 - Each element is written individually
- Scenario Development overlays the elements

Purpose of Scenario Developments:

- **Regional Development:** *a focus on trends specific to one region, such as demographic shifts or quality of life*
- **Reporting:** *developing better modeling tools or use of visualization tools to communicate with the public*
- **Addresses External Risks:** *climate change, security, or transportation funding, for example.*
- **Community Buy-in:** *the Regional Plan must be a community plan by the community*

“...not a rule book telling everyone what to do”

This is a Democratic Planning Process!

Parameters of Scenario Developments:

- **State Laws** (*required inventories, standards for development*)
- **Funding** (*for planning and projects*)
- **Risk & Uncertainty** (*global economics, climate change, natural disasters*)
- **Innovation** (*technology shifts, jobs, workforce, products*)
- **Community Needs** (*livability, financial stability, sustainable community*)

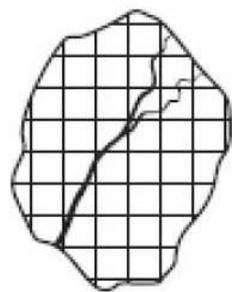
Outcomes of Scenario Developments:

- HOW does our community WANT to grow?

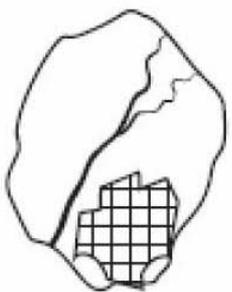
Dave Wessel here...



Scenario A



Scenario B



Scenario C



10,000 houses built on
10,000 acres produce:
10,000 acres x 1 house
x 18,700 ft³/yr of
runoff =

**187 million ft³/yr of
stormwater runoff**

**Site: 20% impervious
cover**

**Watershed: 20%
impervious cover**

10,000 houses built on
2,500 acres produce:
2,500 acres x 4 houses
x 6,200 ft³/yr of
runoff =

**62 million ft³/yr
of stormwater runoff**

**Site: 38% impervious
cover**

**Watershed: 9.5%
impervious cover**

10,000 houses built on
1,250 acres produce:
1,250 acres x 8 houses
x 4,950 ft³/yr of
runoff =

**49.5 million ft³/yr of
stormwater runoff**

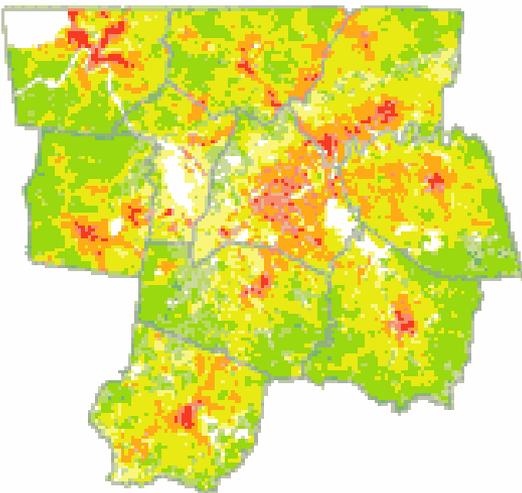
**Site: 65% impervious
cover**

**Watershed: 8.1%
impervious cover**

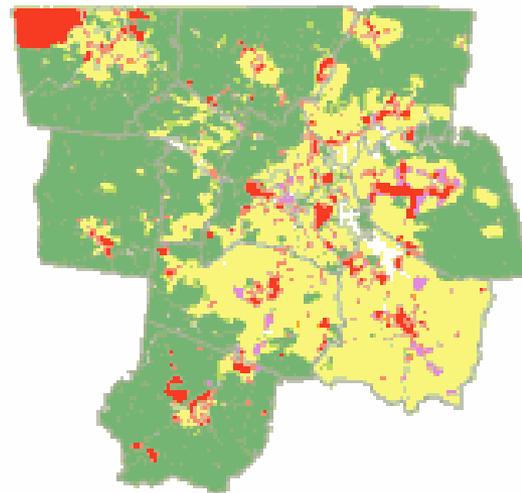


Example: Memphis, TN – growth scenarios

SUITABILITY ANALYSIS

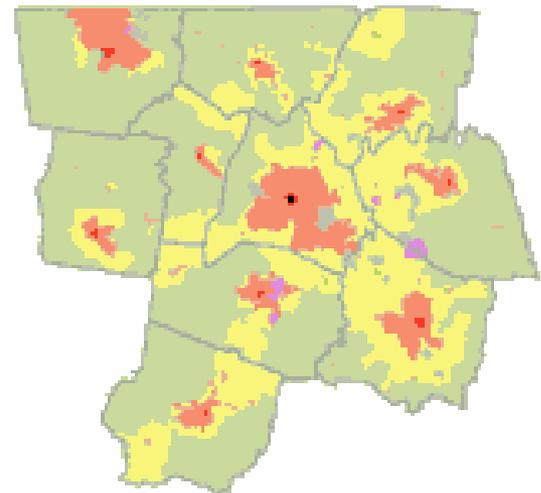


LAND USE POLICY



'A' business as usual

GROWTH POLICY



'B' compact development pattern



Example: Memphis, TN – parameters examined

Topic	Scenario A	Scenario B	Scenario C	Scenario D
Agricultural Land Consumed: 1998 - 2020	174 sq mi 	143 sq mi 	65 sq mi 	43 sq mi

Topic	Scenario A	Scenario B	Scenario C	Scenario D
Infrastructure Cost 1998-2020 (Transportation, water, sewer, utilities)	\$38 billion \$\$\$\$\$ 	\$30 billion \$\$\$\$\$ 	\$22 billion \$\$\$ 	\$23 billion \$\$\$!

Topic	Scenario A	Scenario B	Scenario C	Scenario D
Single Family Homes vs. Condos, Apts. & Townhomes	SF 77% Condos, etc. 23% 	SF 75% Condos, etc. 25% 	SF 68% Condos, etc. 32% 	SF 62% Condos, etc. 38%

Topic	Scenario A	Scenario B	Scenario C	Scenario D
Transportation Choices				

Topic	Scenario A	Scenario B	Scenario C	Scenario D
Walkable Communities (Walk to work, stores, school, transit)				

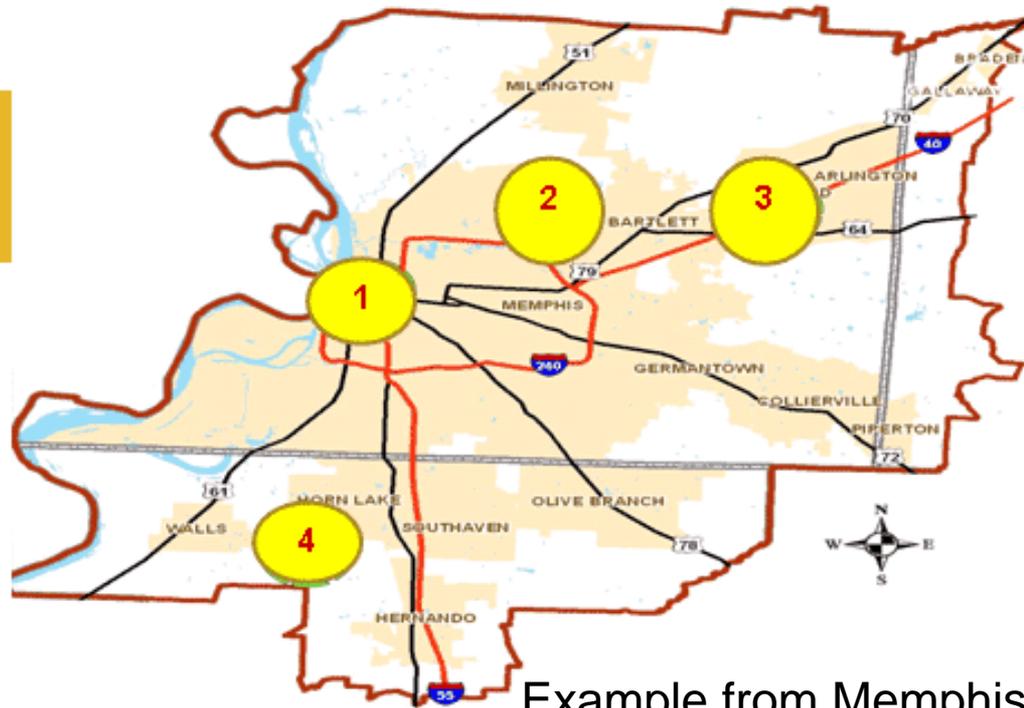
Do we have the resources to look at the whole region?

Or will we have focus on specific areas?

Figure 3. Map of Focus Areas used by the Memphis MPO for Scenario Development.

Focus Areas

1. Urban Core
2. Suburban
3. Greenfield Transition
4. Rural





Preparation:

- **Compile** Existing Conditions (*i.e. trends, statistics*)
- **Understand** Potential Growth (*i.e. population/job projections*)
- **Decide** upon focused elements for charrette (*big pay-offs*)
- **Use Community Engagement** to review, discuss, debate and decide where & how we want to grow

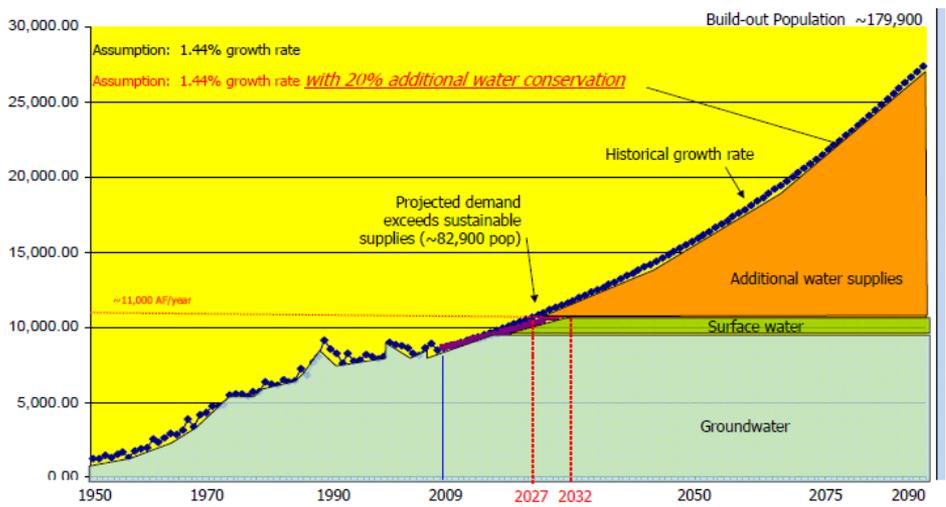
POPULATION	City of Flagstaff	Coconino Co. w/ in FMPO	FMPO Total
2000	52,894	14,709	67,603
2010	66,879	17,888	84,766
2020	76,199	26,033	102,232
2030	83,746	28,607	112,353
2050	96,418	32,929	129,347

NAU Population	Total enrollment	NAU Flagstaff campus population	% of City population
2000	19,964	14,495	21%
2010	25,204	17,529	26%
2020	37,460	25,000	33%
2030			
2050			

The Board of Regents has indicated that they want Flagstaff campus enrollment to be 25,000 in the year 2020.

Visitor Population	City of Flagstaff	Northern Arizona Region
2000	2,421,331	6,106,328
2010	2,593,100	6,539,509
2020	2,777,053	7,193,460
2030	2,974,057	7,912,806
2050	3,410,981	9,574,496

** Source: 2008 Survey, Arizona Hospitality Research and Resource Center



Process:

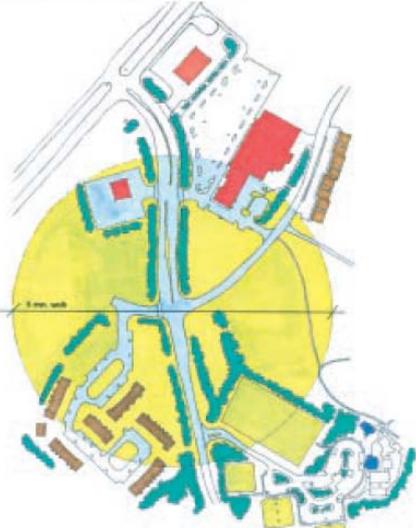
- 1. CAC decides parameters** to be measured for charrette
- 2. Charrette** - 'Sharpie marker level of drawings' –
INTERACTIVE PUBLIC PROCESS
- 3. Synthesize** charrette outcomes
- 4. Run models** with Development Scenarios
- 5. Identify the big pay-offs** for discussion
- 6. ASU Decision Theater**
 - Visualization
 - Facilitation
 - Decision



Process:

7. Incorporate findings into Regional Plan

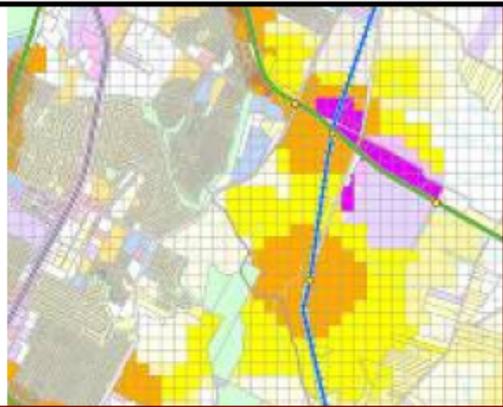
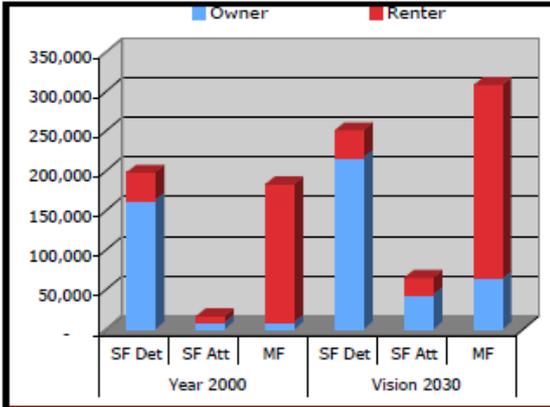
How it Is Today.....



How it Could Develop



= Policies & Strategies



Sustainability Scenario Planning Tool

Project Update and Demonstration Subregional Coordinators Meeting

Fregonese Associates Inc.

1525 SW Park Avenue, Suite 200
Portland, OR 97201
503.228.3054



Why Use Scenario Planning?

- Compare choices and consequences
- Develop strategies to optimize outcomes
- Plan for anticipated growth





Scenario Building Process



Scenario development starts by creating a library of building types that are financially feasible at the local level.

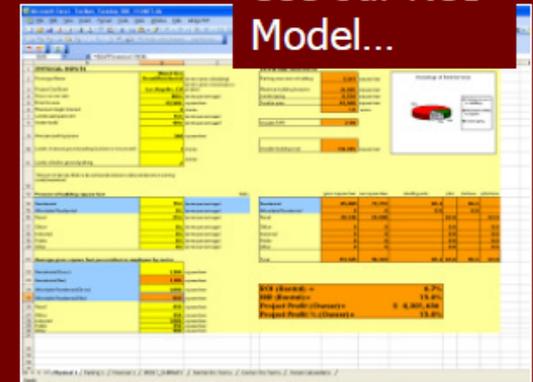
Create Prototype Buildings

Why start with buildings?

Easily modeled & lots of existing data

- Density and Design
- Rents and Sales Prices
- Costs and Affordability
- Energy and Water Use
- Tax Revenue

Use our ROI Model...

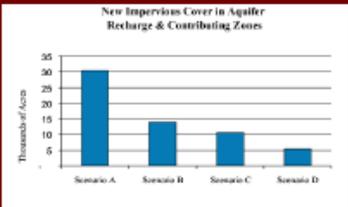


...to Create a Range of Buildings





Scenario Building Process

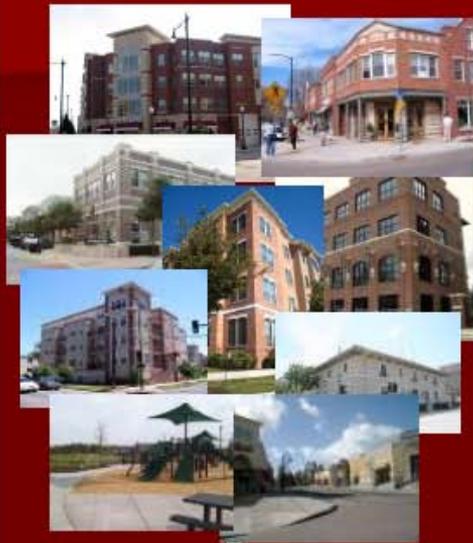


Define the buildings, streets and amenities that make up all the "places" in which we live, work and play.



Land Use Type Mix

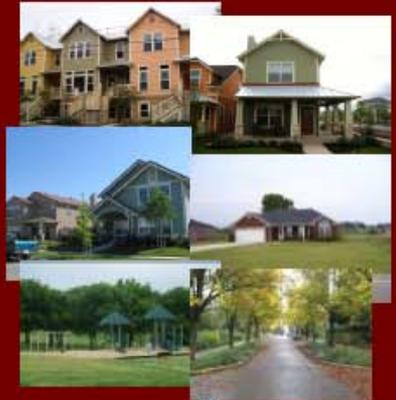
A Variety of Buildings, Streets and Amenities Create a "Place"



Town
Center



Medium-Density
Residential



Single-Family
Residential



Scenario Building Process



Use the Scenario Painter to design several possible future land use scenarios to test the implications of different decisions or policies.



Design Scenarios by Painting Development Types onto the Landscape

Legend

- Commercial - Tourism/Retail
- Mixed-Use Commercial/Flex/Employment
- Mixed-Use Commercial - Town Center
- Mixed-Use Commercial - Neighborhood Center
- Single-Family Residential
- Medium-Density Residential
- High-Density Residential

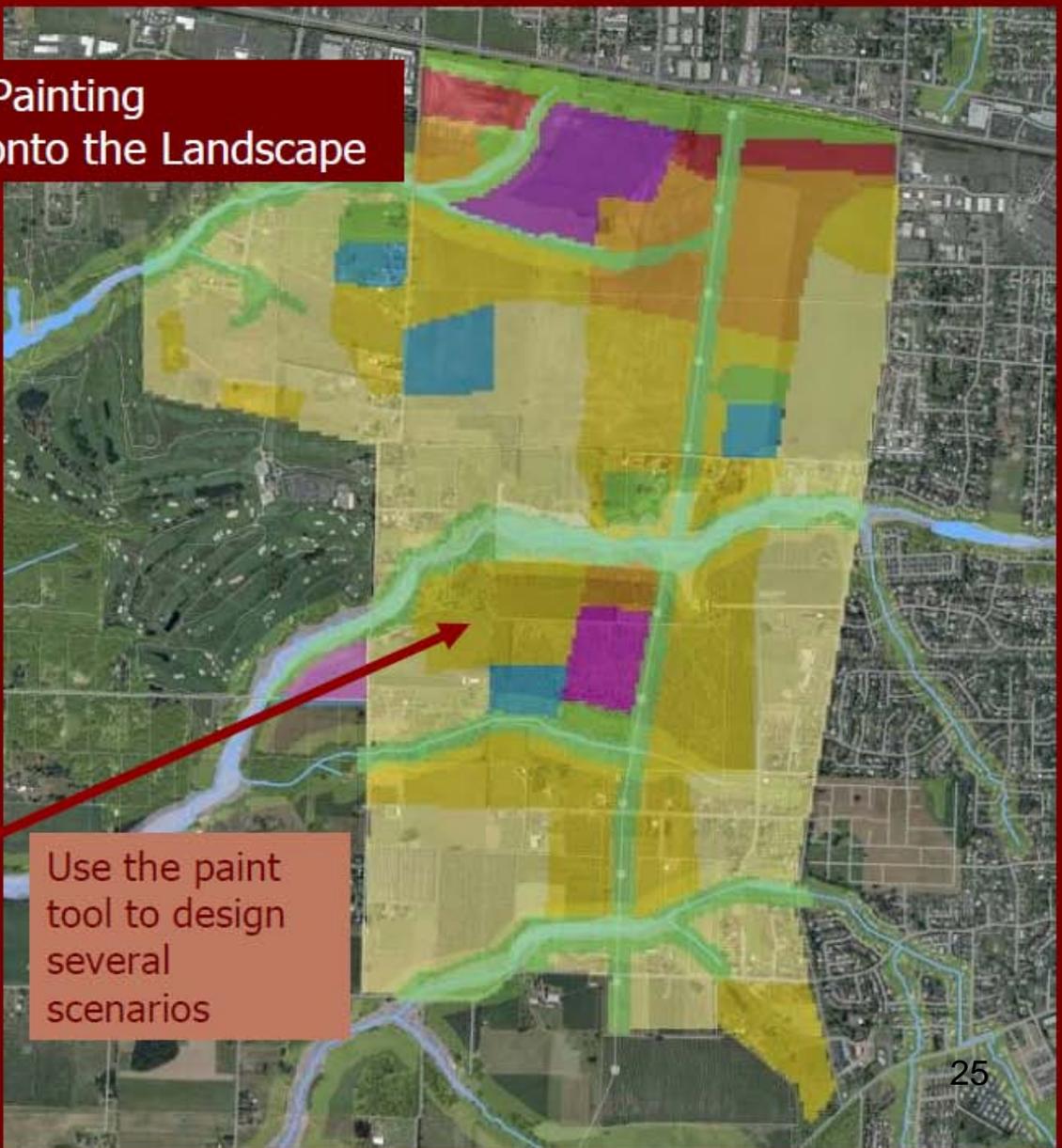
ENVISION ATTRIBUTE EDITOR

File Symbols Paint Brushes Acre Values

APPLY

Development Types

Symbol	Development Type
	ERASE
	Urban Core
	Traditional Downtown
	Town Center
	Business Park
	Industrial
	Neighborhood Retail
	Power Retail
	Regional Retail
	Lifestyle
	Master Planned Community
	Traditional Neighborhood (TND)
	Residential Subdivision



Use the paint tool to design several scenarios

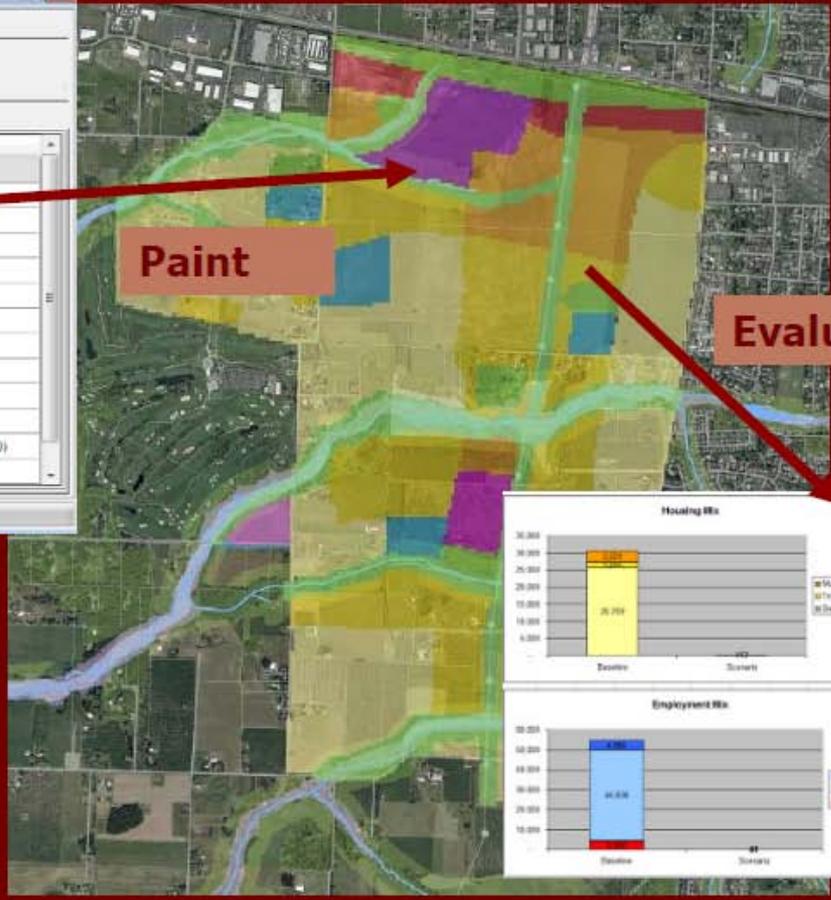


Scenario Building Process

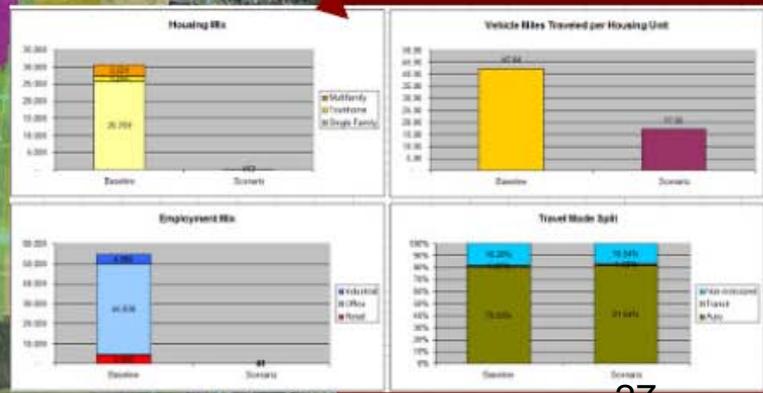


Compare the scenarios and monitor the impact of land use decisions in real-time.

Real-time Scenario Evaluation



When changes are made, the user can see the impact in real-time.



Scenario Evaluation

- Evaluation criteria include:
 - Land Use: density and mix of uses
 - Transportation: mode choice
 - Housing: mix and affordability
 - Fiscal Impact: local revenue and infrastructure
 - Environment: open space and agriculture land consumption
 - Sustainability: energy use, carbon footprint, water and wastewater



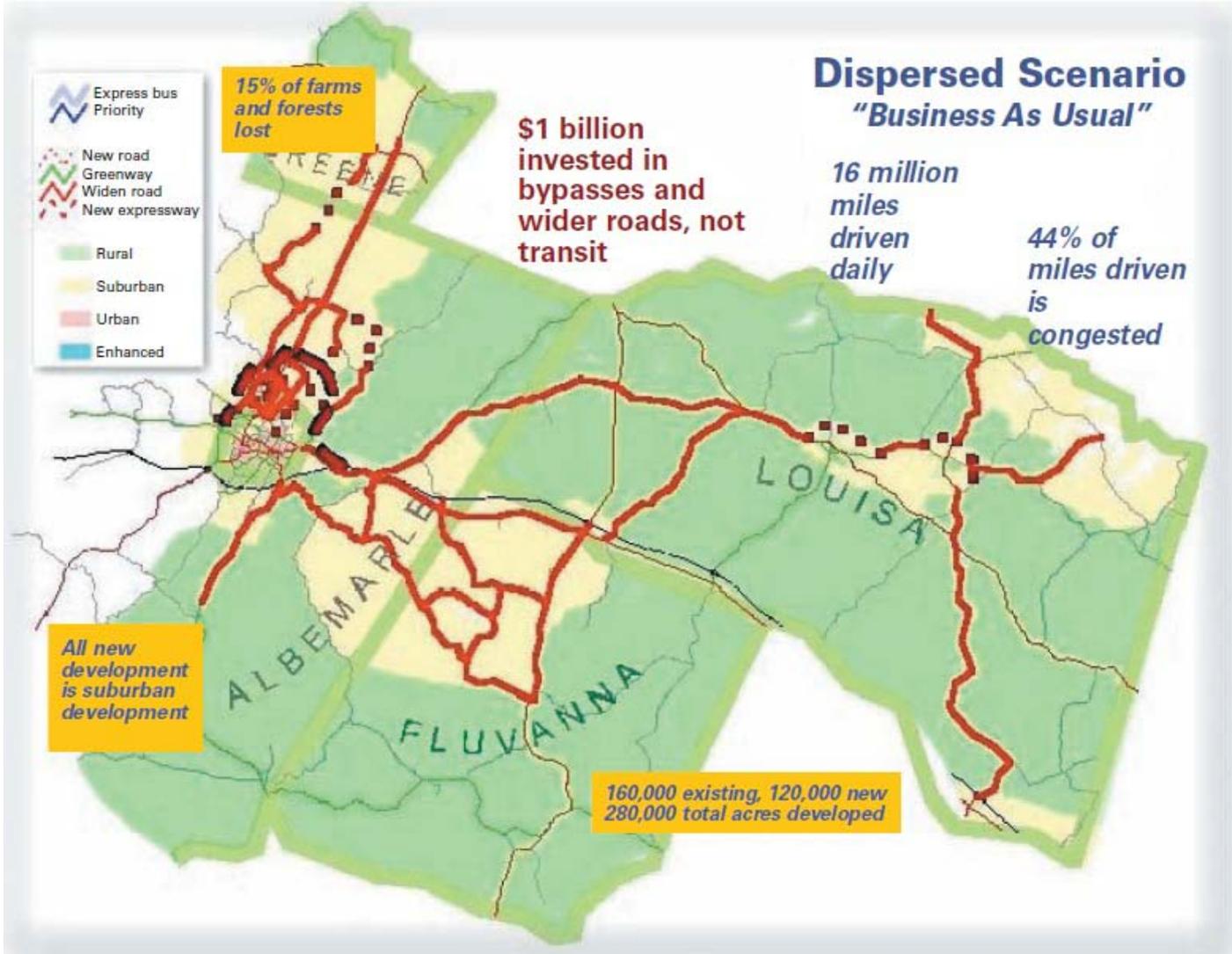
Current Project Objectives

- ✓ *“Develop a model that local jurisdictions can use to analyze the impact of different land use scenarios on vehicle ownership, vehicle use, mode shifts, and their associated effects on GHG emissions.”*
- ✓ *“Enable local planners and decision makers to quantify and visualize the outcomes of their different development options and choices”*



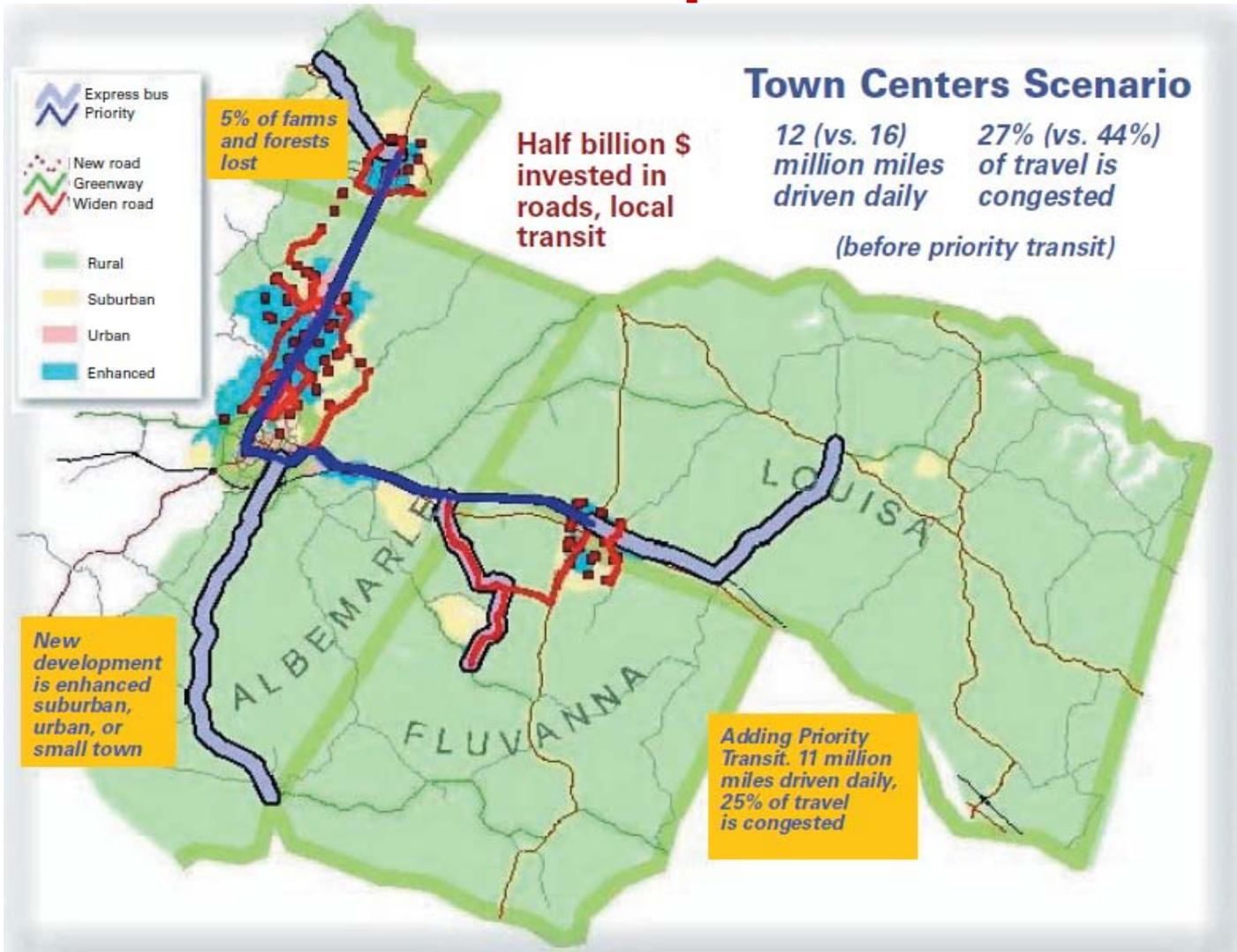
DEVELOPMENT SCENARIOS PROCESS EXAMPLE
EXPECTED OUTCOMES...

Town Center Example:





Town Center Example:





Outcomes:

Table 1. Scenario Analysis. [43](#)

Measure / Sustainability Accord	Dispersed	Town Ctr	CoreL	CoreM
% Farms and Forests				
Retain resources/habitat/farms/forests	55	64	65	65
% Developed				
Retain resources/habitat/farms/forests	45	36	35	35
% Living in Clustered Communities				
Optimize use/cluster/human scale	13	61	68	68
% Non-auto Trips				
Transportation Alternatives	4	15	18	18
Annual Gallons Gas Consumed (billions)				
Conserve Energy	155	121	110	114
% Travel Congested				
Employment/Education Access	44	27	20	21
Water Quality and Quantity				
Water Quality and Quantity	Poor	Good	Good	Good

This is the general idea...

Questions?

**Who is going to do WHAT
to help this happen?**

Mark Landsiedel here...

Roles of CAC and Sub-Committee:

- **Development**

- *Concepts:* **CAC**/Staff/Charette Process
- *Data & Analysis:* KHA/Staff
- *Graphics:* KHA/ADOT CCP

- **Evaluation**

- *Criteria:* **CAC**/Staff/Charette/KHA
- *Assumptions:* **CAC**/Staff/KHA
- *Modeling:* KHA/Staff

- **Selection**

- *Review & Comment:* **CAC**/Public
- *Conflict Resolution:* **CAC**/ASU-DT

Roles Sub-Committee:

- **Sub-Committee selected** at April 7, 2011 CAC meeting
- **Sub-Committee organizational meeting:** April 28, 2011 (last Thursday)
- **Sub-Committee will report back monthly to the CAC.**

CAC Sub-committee Report

- **Sub-Committee members:**
 - Alex Wright
 - Jerome Naleski
 - Julie Leid
 - Judy Louks

Jerome Naleski here...

CAC Sub-committee Report

Sub-Committee GOALS:

1. **Exercise collaboration** to see a future for our community
2. **Compile all of the information** – try to understand what it will take to make our community we all desire
3. **Understand how to communicate** all of these ideas to the voters

CAC Sub-committee Report

- **Sub-Committee TASKS:**
 - Confirm Element Groupings (*May*)
 - Confirm / Develop measurements or assessments (*May*)
 - Recommend priority elements for charrette process to CAC (*June*)
 - Participation in charrette process (*July*)
 - Recommend priority elements for Decision Theater process (*August*)
 - Assist with charrette and Decision Theater process organization (*May - December*)

CAC Sub-committee Report

- Sub-Committee **ACCOMPLISHED TASKS:**
 - Confirm Element Groupings (*May*)
 - Confirm / Develop measurements (*May*)

Flagstaff Area Regional Plan - Decision Theatre -

INPUT:

MODEL BASE
Land Use
Infrastructure
Density
Open Space

Scenario 1:
Current regional land use and transportation plan background

Scenario 2:
TBD
Example:
Increased density & core growth*

Scenario 3:
TBD
Example:
Multiple hubs or growth centers*

** Modeling scenarios to be developed by CAC subcommittee & planning team and presented to the CAC for approval prior to proceeding with Decision Theatre activities.*

This is
COMMUNITY
CHARACTER

How does each scenario impact the elements of:

Economic Development & Fiscal Stability?

Environment & Conservation?

Transportation?

OUTPUT:

What will it take to implement our selected scenario?

Roles Sub-Committee:

- **Sub-Committee REQUEST:**
 - TRUST us to fully vet the process
 - TRUST our recommendations represent not only the CAC but the community at large
 - KNOW that we will engage staff and consultants
 - We will meet monthly report & decision w/ CAC
 - We need YOU ALL to participate in the charrettes!!



Mark Landsiedel here...



CAC Schedule:

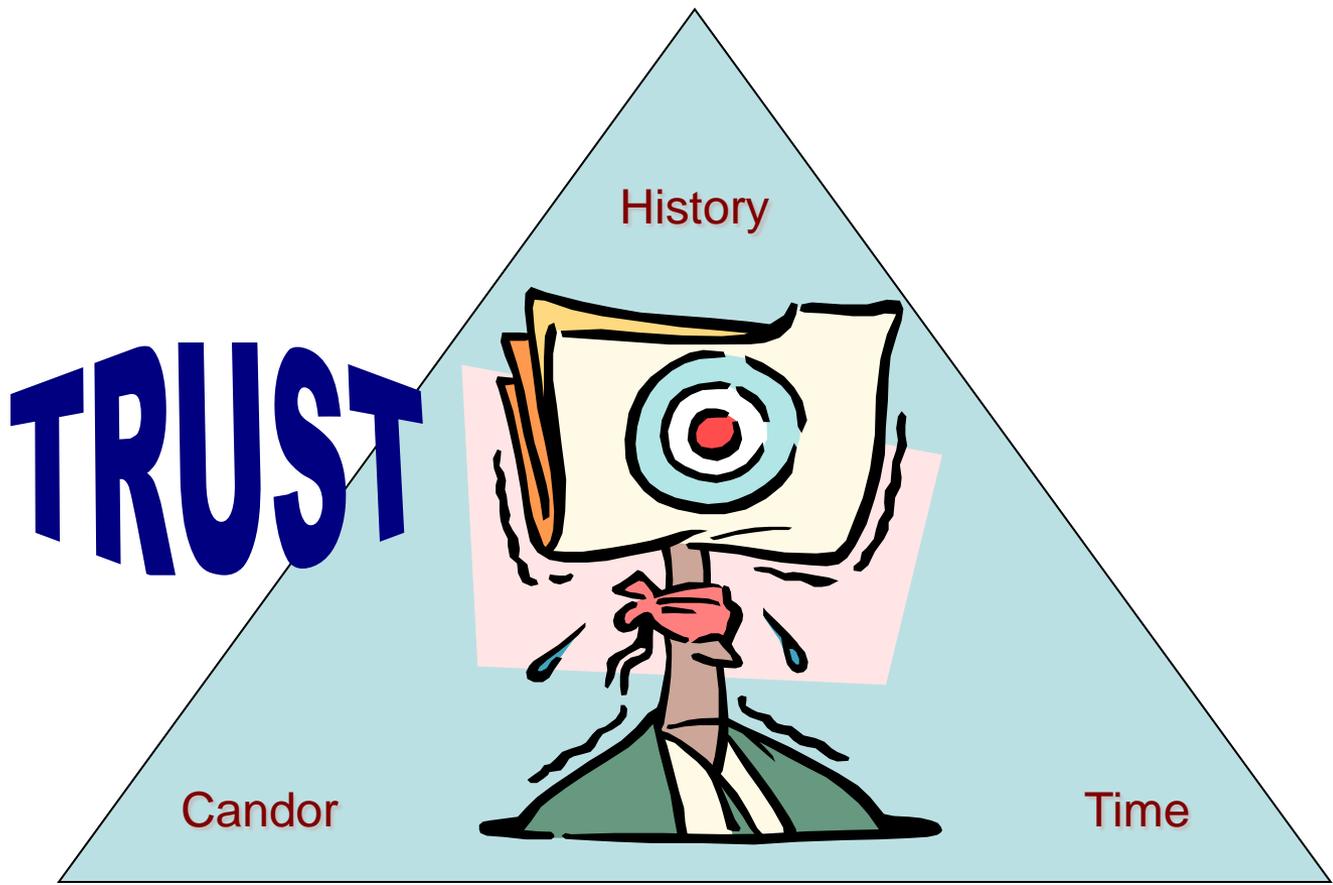
May	June	July	Aug	Sep	Oct	Nov	Dec	Jan'12	Feb'12
CAC MTG: Open Space / Recreation	CAC MTG: Comm Char	NO CAC MTG	CAC MTG: Comm Char	CAC MTG: Econ Dev Housing Growth	CAC MTG: Econ Dev Housing Growth	CAC MTG: Land Use Circ Bicycles	CAC MTG: Land Use Circ Bicycles	CAC MTG: Refine Land Use & Circ	CAC MTG: Synthesize DT results
Process- Kevin Burke	Prepare for Design Charrettes	CAC Attends Design Charrettes	Review Charrette results. Approve (3) development scenarios					Kimley-Horn Report	Finalize Land Use & Circ
Development Scenarios	Discuss potential DT parameters	(4) public meetings to establish "bubble diagrams" of (3) potential development scenarios	Approve DT parameters (example: water, trans., econ.dev.)		Prepare for Decision Theater	Prepare for Decision Theater			
Introduce Community Char			Introduce E.D, Housing, Growth		Introduce Land, Circ, bic.		Decision Theater		

Path Forward:

Task	Date
Sub-committee identify parameters	Today through June
Sub-committee recommends menu of parameters to CAC	June
CAC participates in charrette process	July
Charrette synthesis	August
Models are run to test scenarios	September - Nov
Big Pay-off discussion to prepare for ASU DT	November
ASU Decision Theater	December or Jan



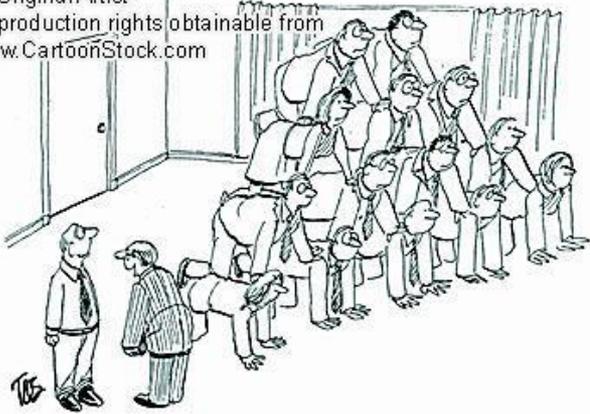
Trust is created over time





DEVELOPMENT SCENARIOS NEXT STEPS

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"Henry, you're on top of this week's team pyramid."

search ID: aton95

