



REGIONAL CONNECTORS STUDY

SCENARIO PLANNING WEBINAR #7

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Agenda

- Recap of Suitability in the Land Use Modeling
- How Suitability Factors Relate to Scenarios
- Suitability Factors and Data Needs
- Data needs for performance measures
- Next Steps

Overview slide – where are we now



| TASK 4 | CONDUCT SCENARIO PLANNING | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV |
|--------|---|-----|-----|-----|-----|-------|-----|-----|-------------------|------|-----|-----|
| 4.1 | Building the Base Data, Models, and Scenarios | ▲ | ❖ | ❖ | ♦ ❖ | ▲ | □ | | | | | |
| 4.2 | Defining Alternative Future Scenarios | | | ❖ | ● ❖ | ♦ ❖ ● | □ | ➡ | | | | |
| 4.3 | Defining Measures of Success | 📊 | | | ❖ | ❖ ● | ♦ | □ | Develop Dashboard | | | |
| 4.4 | Evaluate 2015 Current Regional Conditions | | | | | | ❖ | ♦ | □ | | | |
| 4.5 | Modeling the 2045 Baseline Alternative | | | | | | | | ♦ ❖ □ | | | |
| 4.6 | Building the Alternative Scenarios | | | | | | | | | ❖ ♦ | □ | |

- Scenario Narratives, Performance Measures and Greater Growth amt to Steering Committee 7/9
- Focusing on development of land use model Suitability Factors and performance dashboard

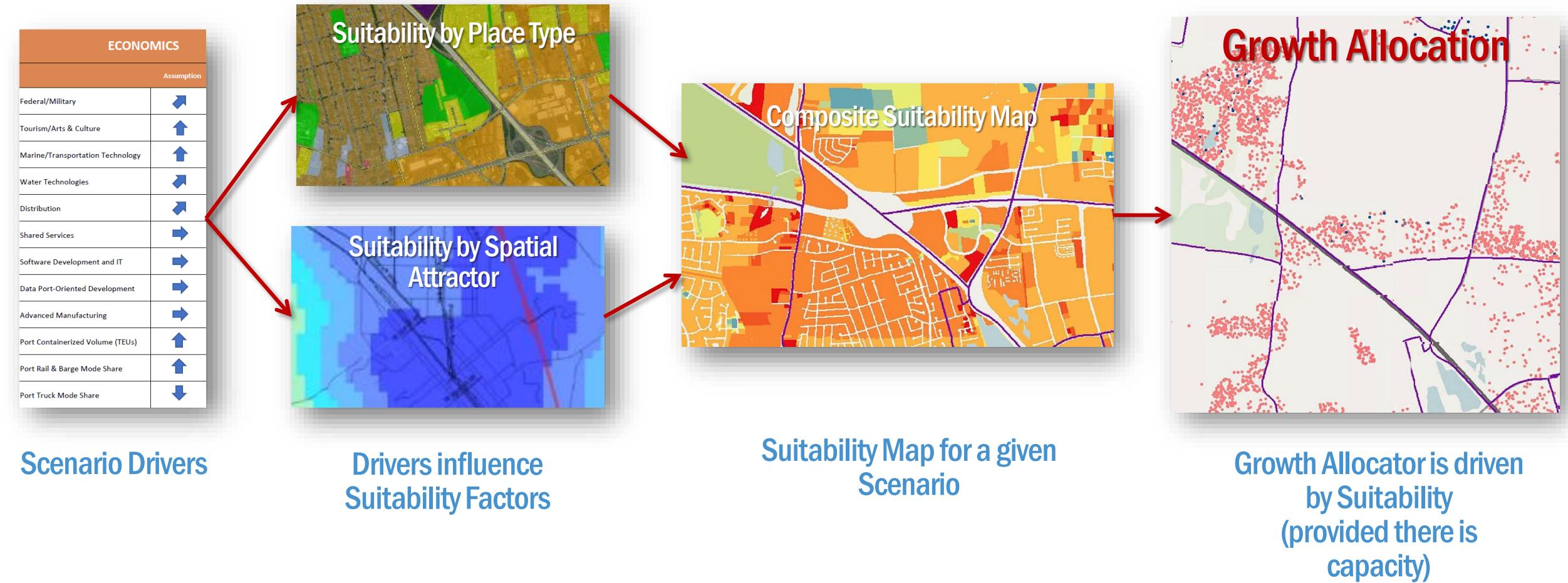


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RECAP OF SUITABILITY FACTORS IN LAND USE MODELING

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How Drivers Influence Growth Allocations



Using Suitability in the Model

Assumptions

Graphical Tabular

Scenario GG Urban Centers

Use MU Commercial Place Type Yes No

MU Commercial Place Type Weight 0 5 10 5.0

Use MU Residential Place Type Yes No

MU Residential Place Type Weight 0 5 10 5.0

Use Transit Proximity Yes No

Transit Proximity Weight 0 5 10 5.0

Use Large Devt Parcels Yes No

Large Devt Parcels Weight 0 5 10 5.0

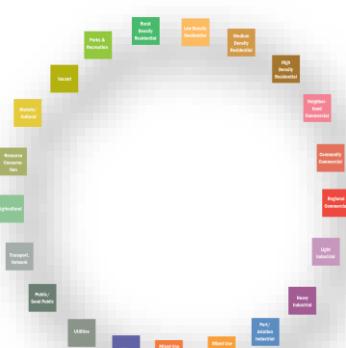
Use Public Utility Availability Yes No

Public Utility Availability Weight 0 5 10 5.0

Suitability Factors can be turned off/on and “weighted”



Place Type Suitability can be set for any Place Type:



Spatial Suitability examples:

- Transit Proximity
- Public Utilities
- Large Developable Sites
- Redevelopment Potential
- Accessibility to Employment



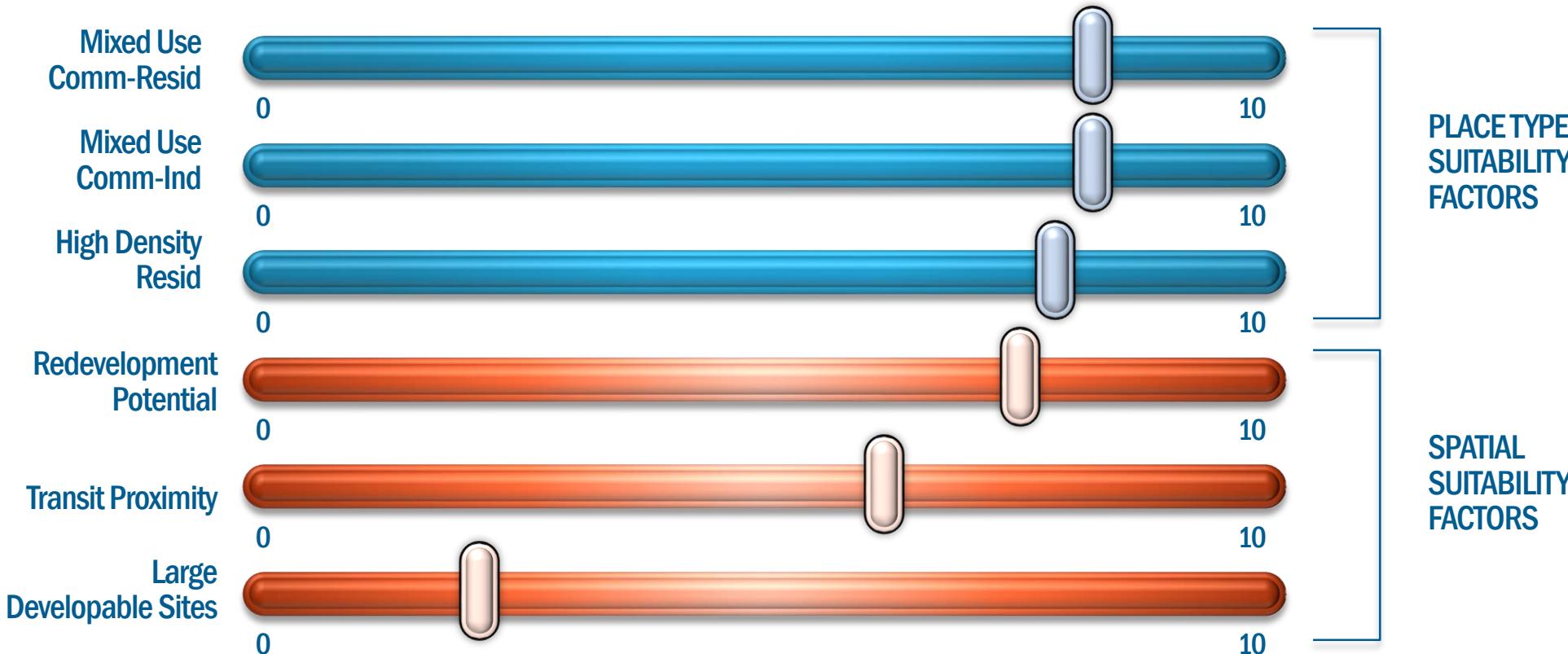
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HOW SUITABILITY RELATES TO THE SCENARIO NARRATIVES

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Suitability Factor Example Deployment

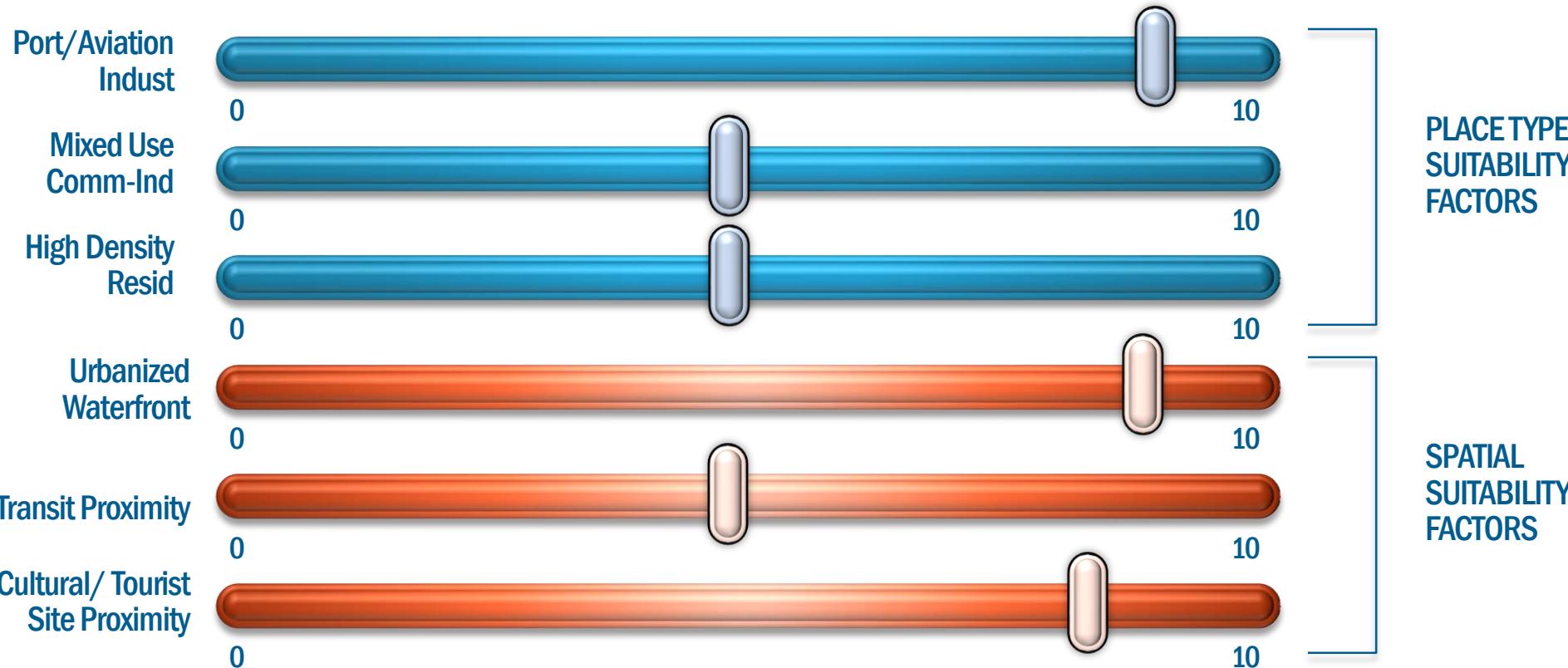
“Greater Growth in Urban Centers”



NOTES: Slider Bar values are hypothetical and for illustration purposes only. Suitability Factors are determined separately for job and population growth.

Suitability Factor Example Deployment

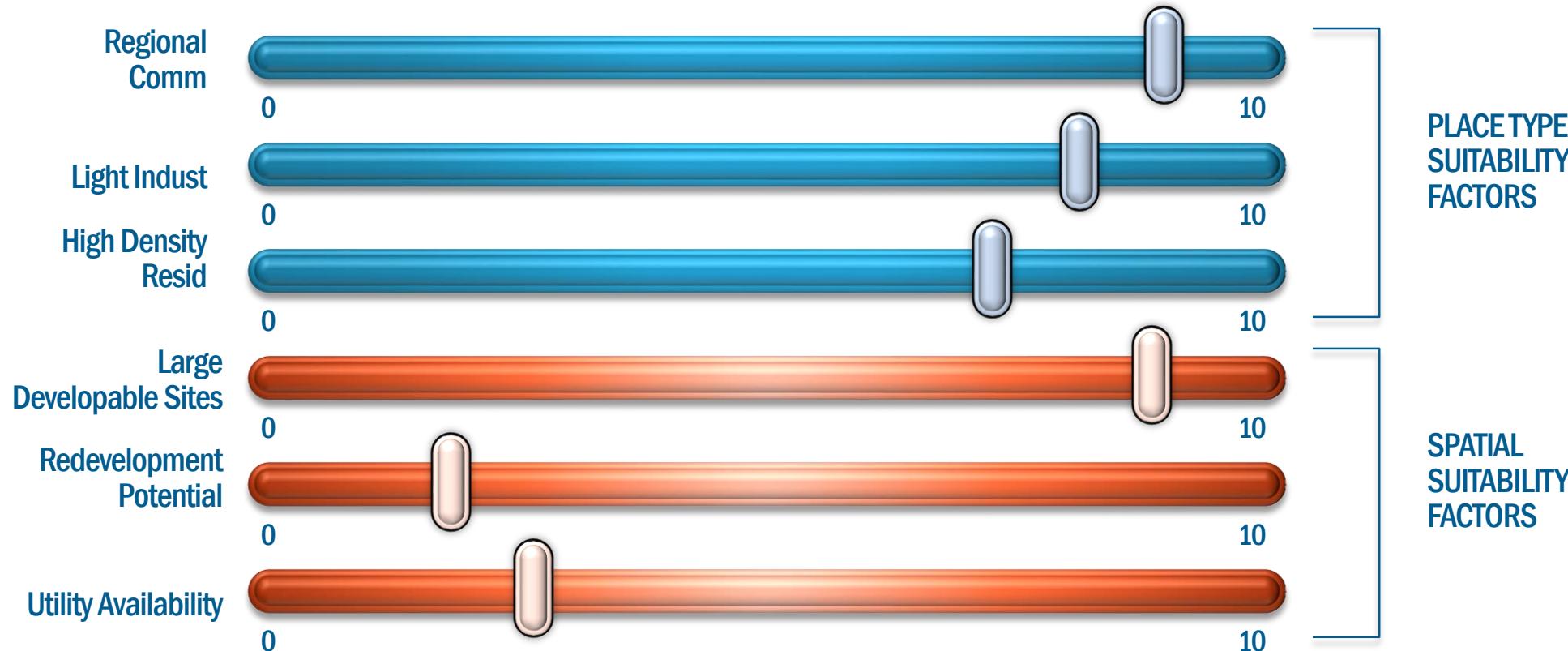
“Greater Growth on the Water”



NOTES: Slider Bar values are hypothetical and for illustration purposes only. Suitability Factors are determined separately for job and population growth.

Suitability Factor Example Deployment

“Greater Growth in Suburban Centers”



NOTES: Slider Bar values are hypothetical and for illustration purposes only. Suitability Factors are determined separately for job and population growth.

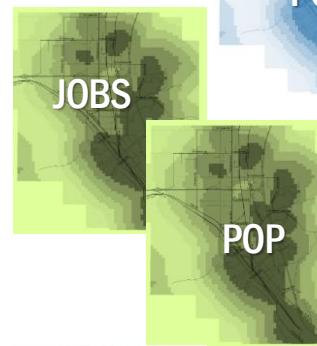
Suitability “Map” Deployment

Six separate Suitability “Maps”

Greater Growth ON THE WATER



Greater Growth IN URBAN CENTERS



Greater Growth IN SUBURBAN CENTERS



Each Scenario will have a separate set of Suitability Factor Weighting for Jobs and Population Growth Allocation

Suitability Factor Deployment Sequence

Working Group
Recommendations
to SC for July 9 Mtg



- Determination of the Greater Growth Control Totals
- Affirmation of the Scenario Narratives
- General affirmation of the Goals, Objectives & Performance Measures

STARTED



- Obtaining Datasets needed for Suitability

THIS SUMMER



- Building Greater Growth Scenarios using Suitability

THIS FALL



- Potential for “Tweaking” of Suitability to better match and differentiate Scenario Narratives

- Draft Land Use Modeling / TDM Results for Review

- Final Land Use Model runs to go into TDM & TREDIS



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DRAFT (SPATIAL) SUITABILITY FACTORS AND DATA NEEDS

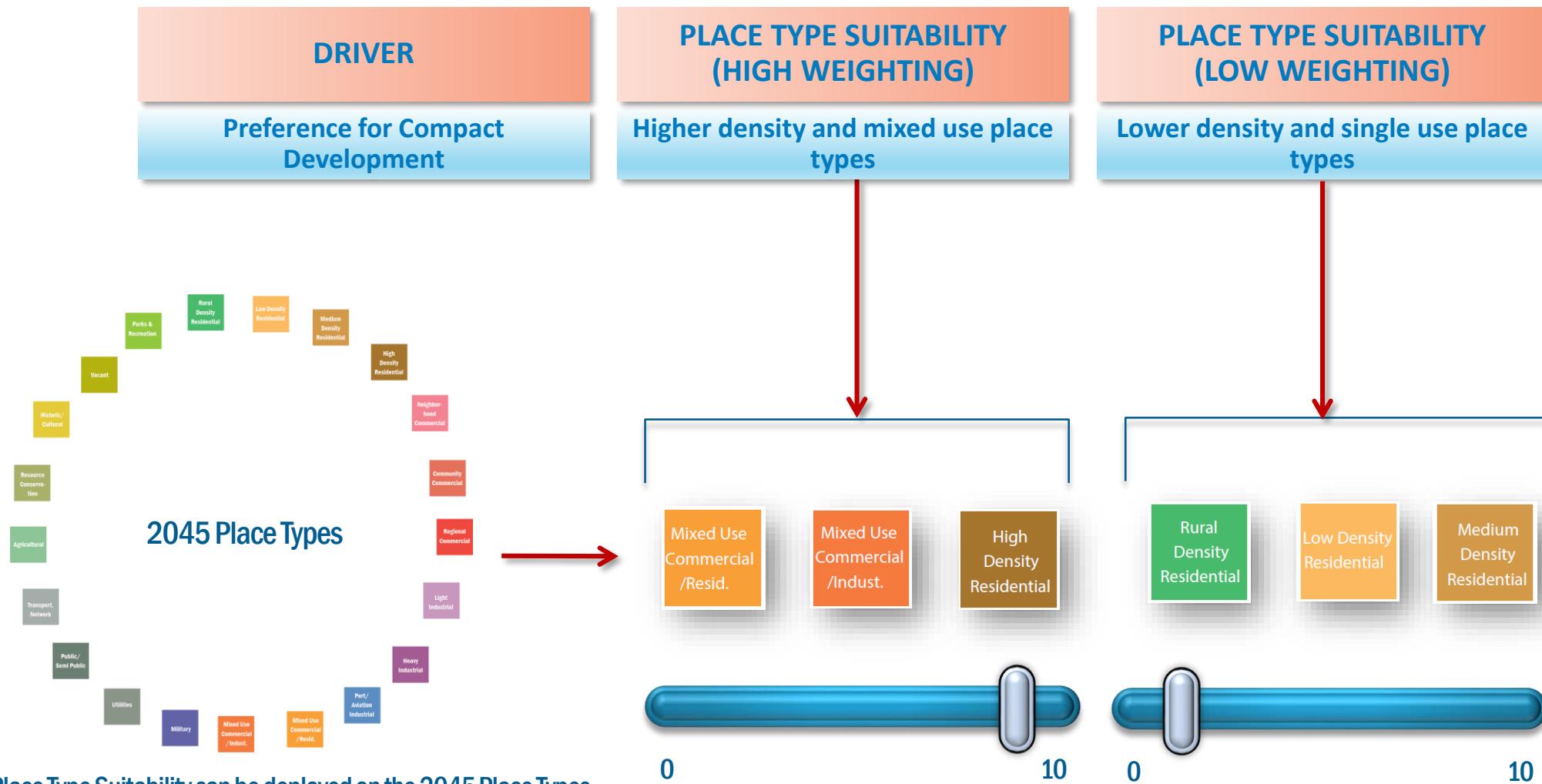
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Spatial Suitability Factors & Datasets

Current Data Needs for Sample of Suitability Factors

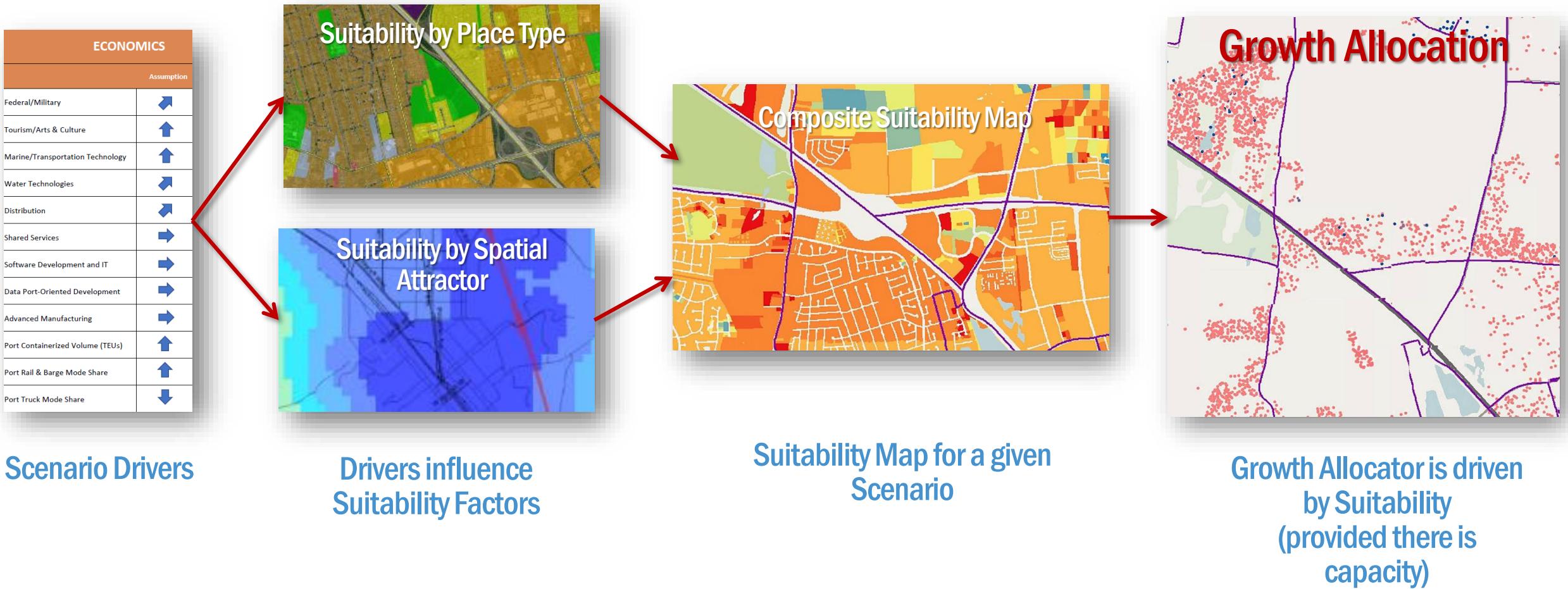
| DRIVER(S) | SUITABILITY FACTOR | DATASET | DATA SOURCE |
|--|-------------------------------------|--|--|
| Marine / Transportation Technology | Port or Shipbuilding Facilities | Parcels with Port/Shipbuilding | HRTPO |
| Urbanization on Water | Urbanized Waterfront | Chesapeake Bay IDA | Localities via HRPDC Chesapeake Bay Pres. Area Working Group |
| Tourism, Arts & Culture | Cultural / Tourist Attraction Sites | Point or Parcel Data for Sites | HRTPO/Localities |
| Active Transportation Propensity | Active Transportation Proximity | TPO dataset on Active Transp. Facilities | HRTPO |
| Urbanization | Redevelopment Potential | Assessed Value of Land & Improvements | HRGEO / Localities |
| Dispersion of Employment/Transportation Industries | Large Developable Sites | Parcel Data | HRPDC |
| Dispersion of Housing / Employment | Major Roadway Proximity | STRAHNET Roads | HRGEO |

Reminder: Suitability is also Driven by Place Type

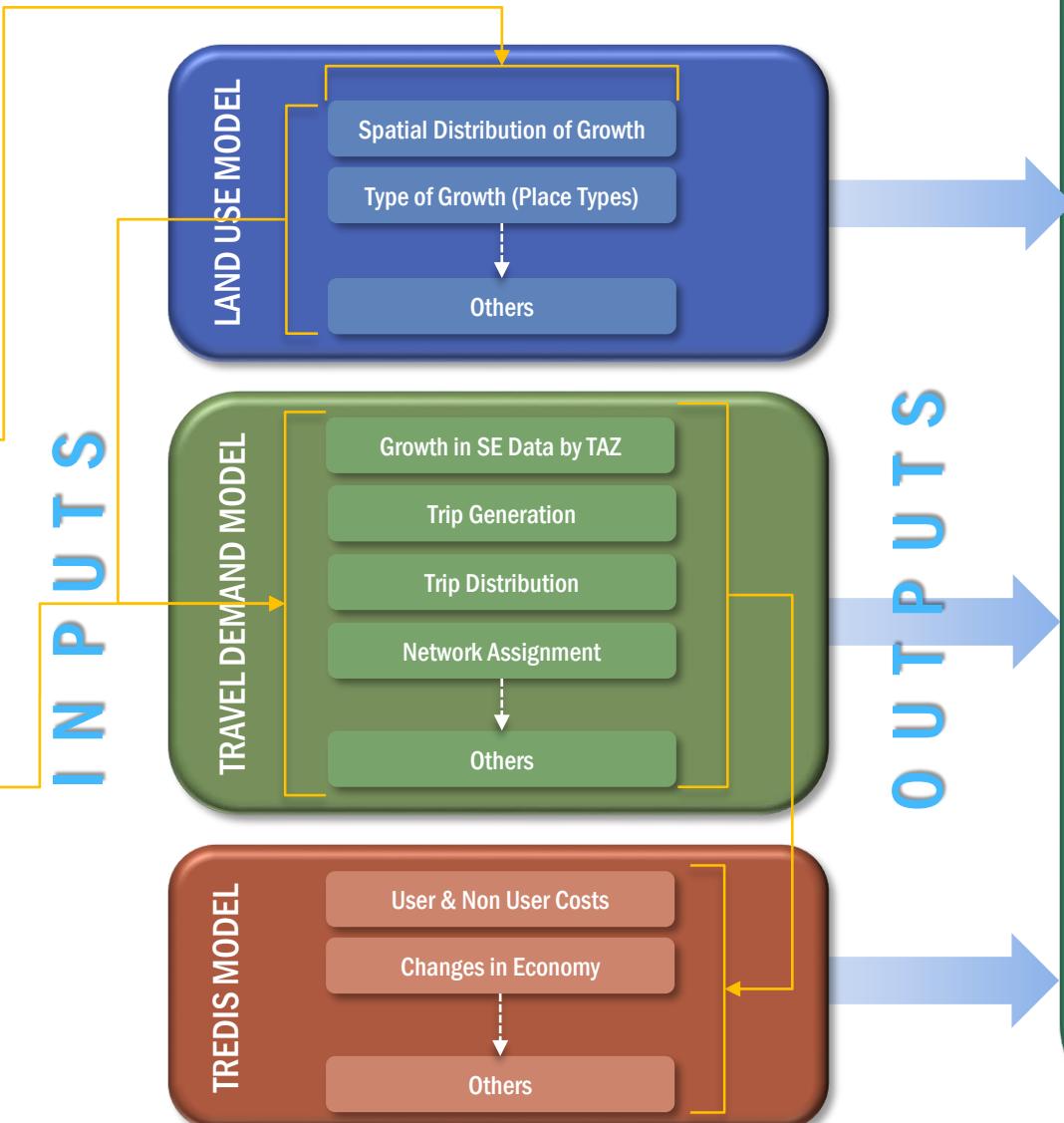
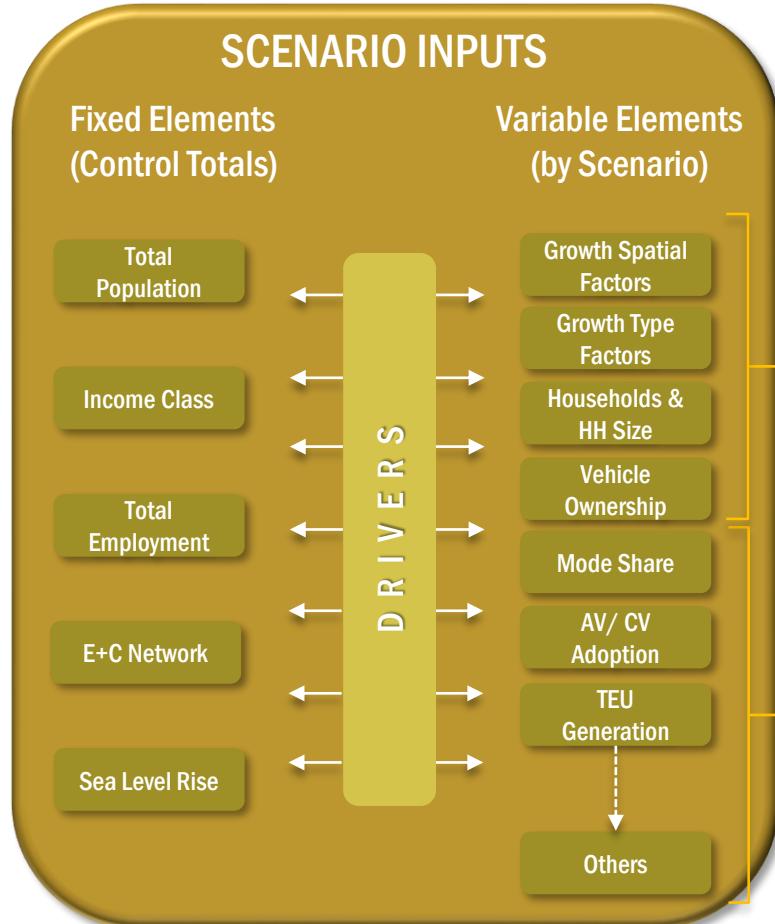


Note: Place Type Suitability can be deployed on the 2045 Place Types alone without the need to use the Greater Growth Place Types

Reminder: How Suitability Drives Growth Allocations



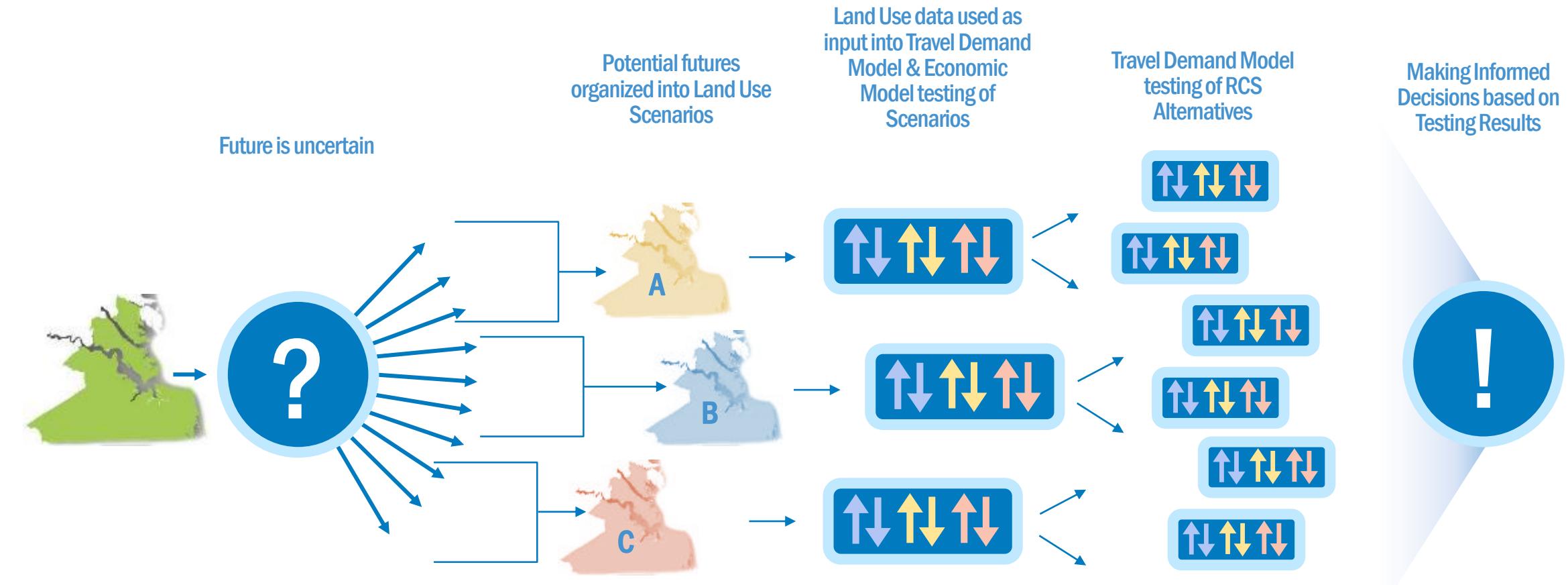
Modeling the Scenarios



| | 2045 Baseline | Scenario A. | Scenario B. | Scenario C. |
|------------|---------------|-------------|-------------|-------------|
| GOALS | | | | |
| OBJECTIVES | | | | |
| MEASURES | | | | |

Reminder: Exploratory Scenario Planning

- The purpose of Scenario Planning is to have plausible alternative futures against which to test Transportation Alternatives





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ADDRESSING DATA NEEDS FOR PERFORMANCE MEASURES

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Some Performance Measures Require Reference Data

| PERFORMANCE MEASURE(S) | DATASET | DATA SOURCE |
|---|--|--|
| Several measures specific to freight | Freight Network | USDOT/HRTPO |
| Traffic volumes at at-grade rail crossings | At-Grade Rail Crossing Locations | FRA |
| Accessibility to major tourist attractions | Major tourist attractions (incl. cultural) | HRTPO – same as for LUM suitability factor |
| Bottlenecks on identified evacuation routes | Evacuation Routes | HRTPO |

Some Performance Measures Require Reference Data

| PERFORMANCE MEASURE(S) | DATASET | DATA SOURCE |
|---|--|--------------------------|
| Bottlenecks on network serving military functions | “Military Serving Network” | HRGEO |
| Transportation network impact from flood-prone conditions | Sea Level Rise and static storm surge level Elevation-based GIS layer of transportation network | NOAA Data/HRPDC VDOT? |

Next Steps

- July 9th Steering Committee meeting affirmation of
 - Scenario Narratives
 - Greater Growth Control Total
 - Goals, Objectives and Performance Measures
- July 12th Webinar (if needed) – Any final update on the model sets
- Next steps
 - Develop performance dashboard
 - Populate and test the greater growth land use model
 - Begin travel demand model review and preparation
 - Develop technology components of travel demand model for scenario runs