

Long Range Transportation Plan Update Scenario Planning



AMPO Annual Conference, October 22, 2015

SPACE COAST LRTP 2040



Space Coast

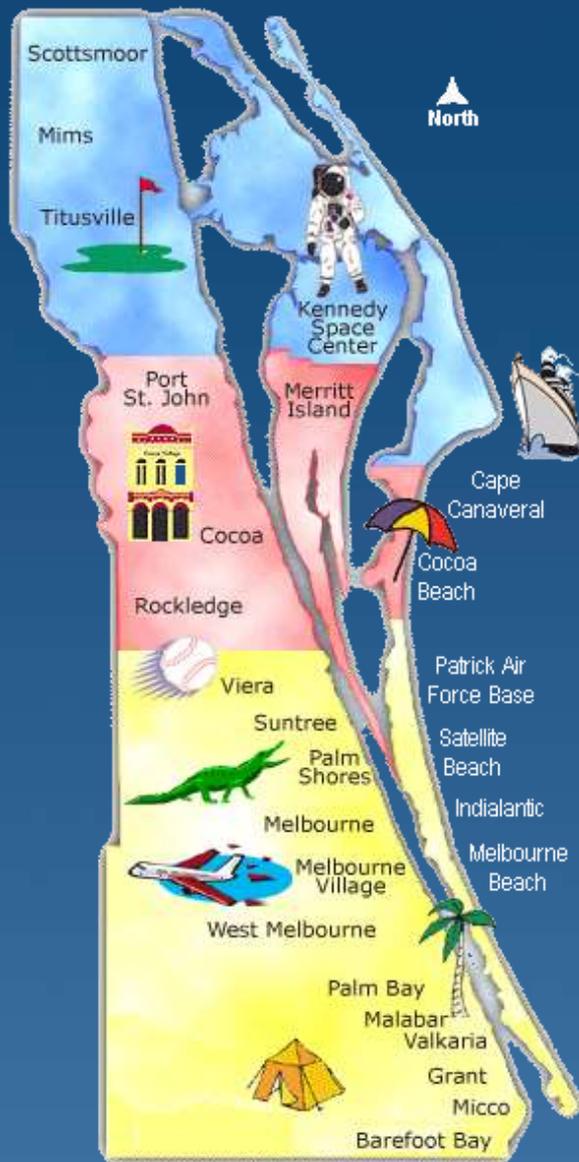


- Brevard County - 9th largest
 - 2 urbanized areas
 - 16 Municipalities
 - 8 unincorporated “communities”
- Population: 556,885
 - 88% of population migrated
 - Median age: 41.4

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Three Population Centers



- North

- Kennedy Space Center
- Merritt Island National Wildlife Center
- Canaveral National Seashore

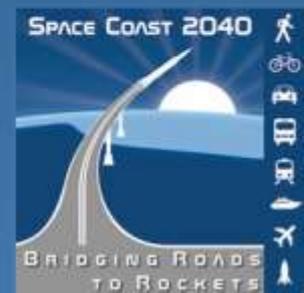
- Central

- Port Canaveral
- Florida's biggest beach / Orlando's closest
- Ron Jon's / East Coast Surfing Capitol

- South

- Patrick Air Force Base
- Melbourne International Airport
- Harris / Embraer

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QUINTI-Modal

- Road
- Rail
- Air
- Sea
- Space

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Space Coast Timeline



1962: Kennedy Space Center opens

2004: Shuttle retirement announced

2006: Transition team formed

2008: Space transportation funding

2008-10: Great recession

2009: Space infrastructure in TIP

2010: LRTP 2035 Adopted

2010-12: 10,000 jobs lost

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Space Coast Timeline



2011: Complete Streets kick-off

2012: KSC 50th Anniversary

2012: Final Shuttle launch

2013: LRTP 2040 Begins

**2014-18: \$20M annually for
Space in FDOT work
program**

**2015-17: 100% TMA allocated to
Complete Streets**

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LRTP Timeline

- Spring, 2013: Leadership workshops
- Summer, 2013: Community survey
- Oct, 2013: Transportation Symposium
- Feb, 2014: Choices Workshop
- Jul, 2014: Vision Workshop
- Jul, 2014: Vision Adopted
- Mar, 2015: Corridor Plan Workshop
- Jul, 2015: Cost Feasible Plan Presented
- Oct, 2015: CFP Adopted



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Community Survey

2040 Long Range Transportation Plan

* Required

For each **EXISTING** roadway condition in Brevard County, please provide your opinion of their current status.

	Very Good	Good	Average	Poor	Very Poor	Don't Know
Ease of commute to and from work or school	<input checked="" type="radio"/>	<input type="radio"/>				
Ease of travel for shopping and errands	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Timing and coordination of traffic signals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pavement condition, such as potholes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Landscaping along roadways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Visibility or clarity of road signs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Your feeling of personal safety when driving (dangerous traffic, accidents, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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- Statistically valid sample
- Promoted through media
- Over 400 responses
- Included:
 - Existing transportation conditions
 - Future aspirations
 - Funding methods

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Transportation Symposium

- 3 hours
- 80+ participants
- LRTP overview
- Survey results
- 25+ city/mode presentations



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Symposium Results



- Expand economic prosperity through diversity



- Protect the natural environment by managing growth



- Capitalize on high tech potential

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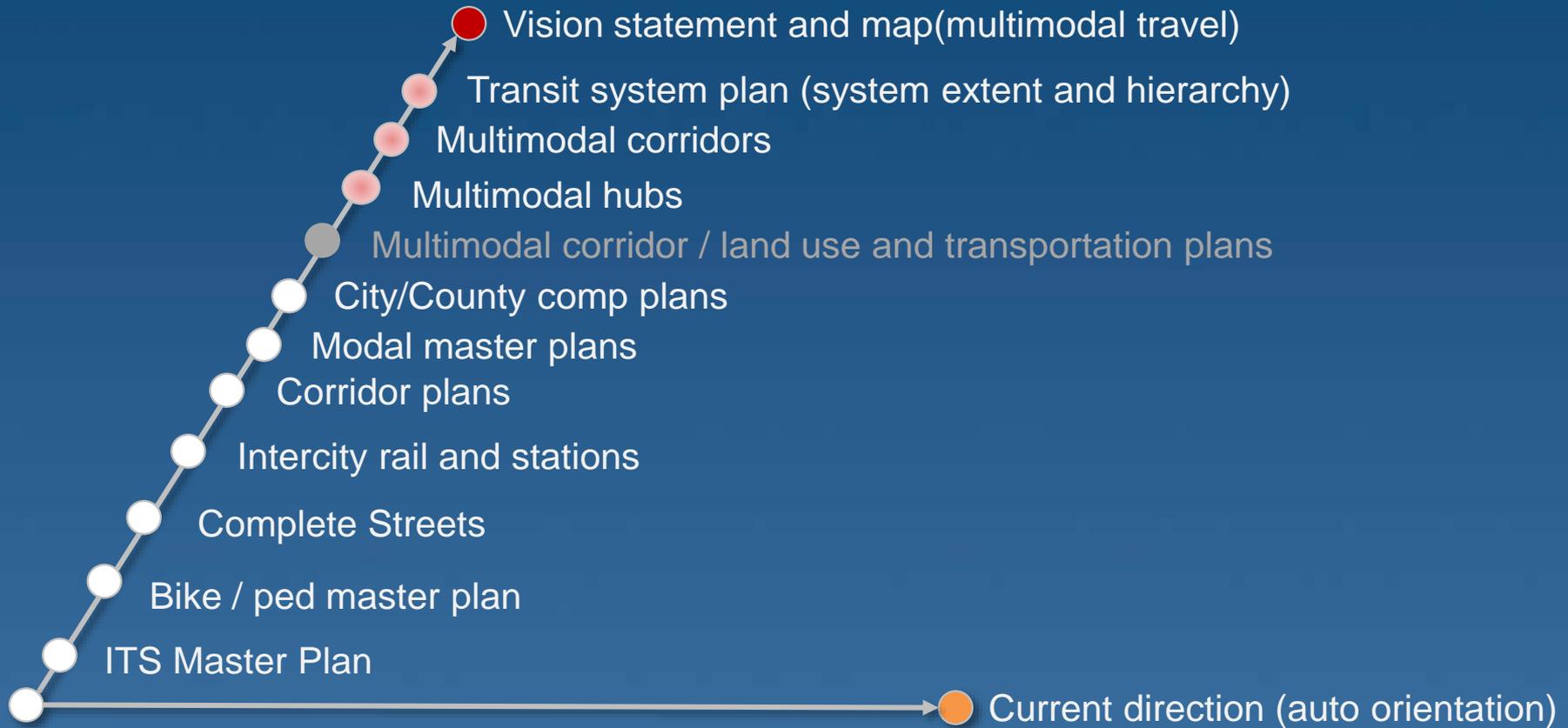
Context – Scenario Planning



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Context – Scenario Planning



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Scenario Planning

- Scenarios allow “test drives” of the future
 - Begin with scenario stories
 - Build a “virtual future” scenario for each story
 - Evaluate how each scenario plays out
 - Create vision from evaluation
- Set context for transportation plan
 - Scenarios and resulting vision look out to 2060
 - Transportation plan prepared for 2040

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Scenario Planning

- Constants
 - Population / employment forecasts
 - Improvement budget
 - Place types
- Variables
 - Place type proportions / allocations
 - Transportation improvements



Step 1: Scenario Stories



What if past patterns continue?

Current Trend



What if we invest in and connect the **ports**?

Ports Centers



What if we embrace **technology**?

High Tech Lifestyle



What if we **balance** open space and development and provide **choices**?

Connected Communities

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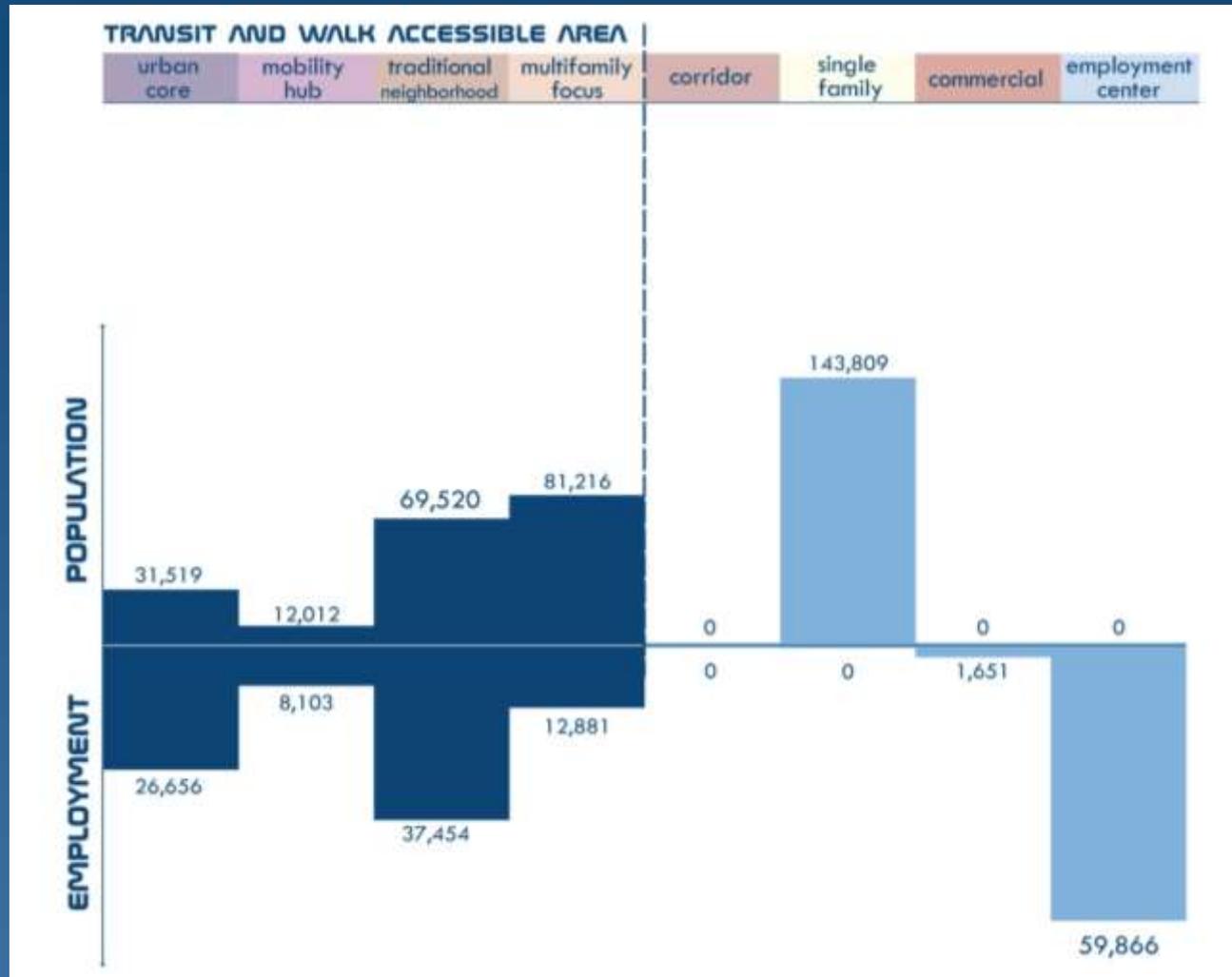
Step 2: Allocate to place types



Compact,
walkable
place types

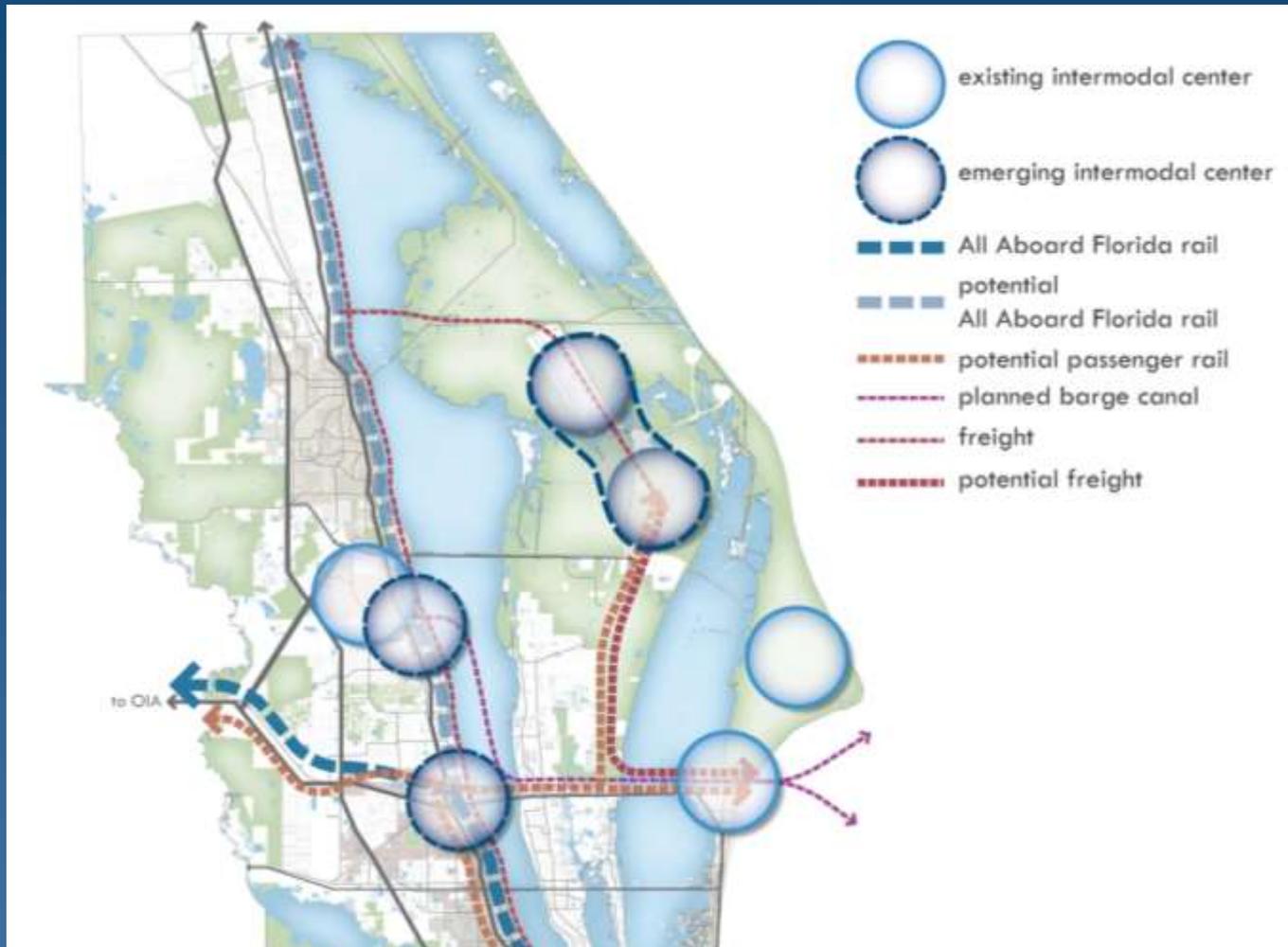
Lower
intensity, auto
oriented place
types

Step 2: Allocate to place types



- Length of top bars reflect **population**
- Bottom bars **employment**
- Dark blue **walkable** types
- Light blue **suburban** types

Step 3: Scenario Concept Maps



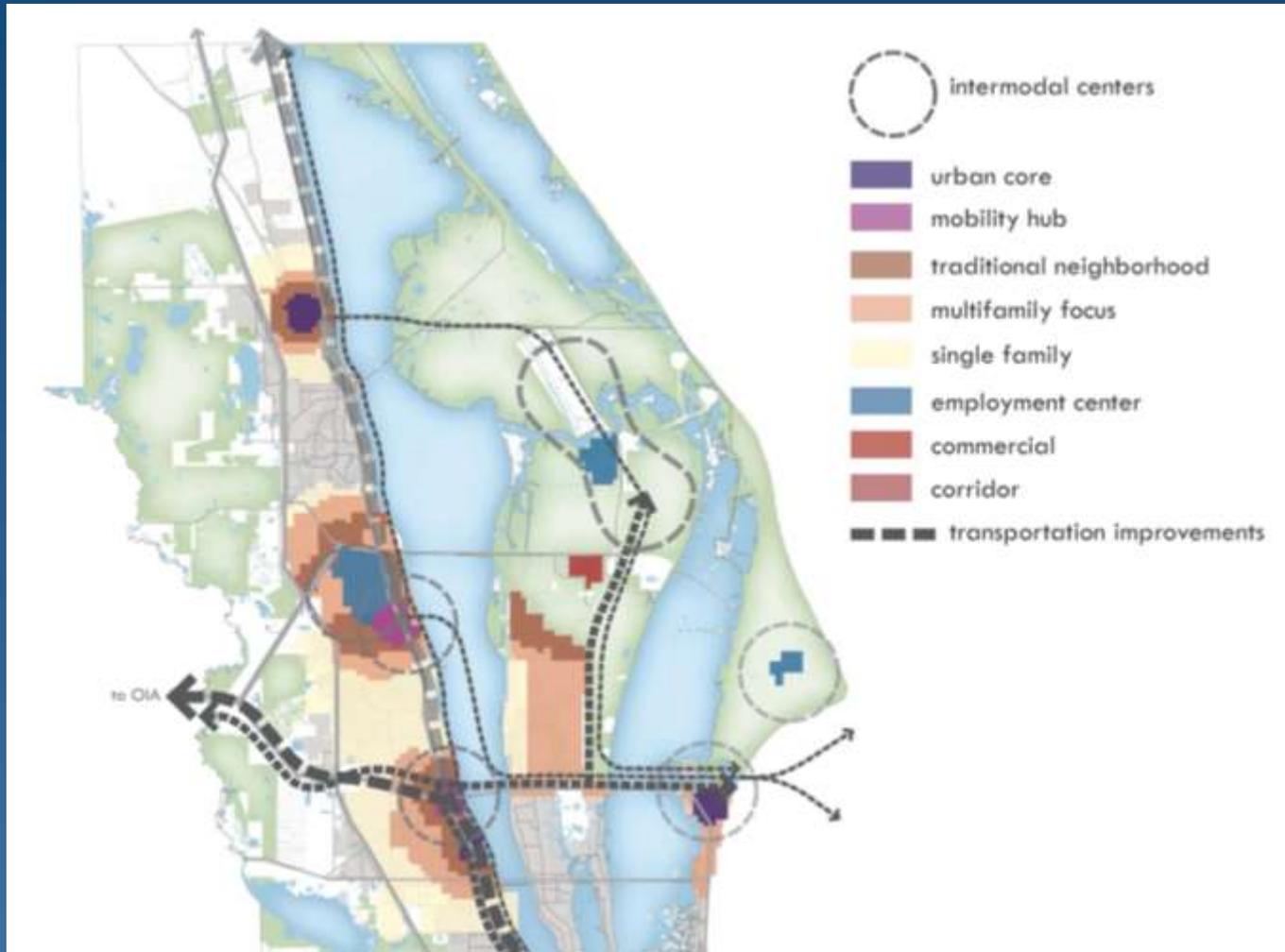
Identify major centers of jobs and housing

Identify major transportation investments

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Step 4: Allocate to concepts



Envision
Tomorrow +
Software

Place types
allocated to
developed
and vacant
land

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Step 5: Transportation improvements

- Each scenario assumes total investment of \$4.6 billion
- Types of investments differed to support scenario concept



Step 6: Evaluate results



- CT – Current Trend scenario
- PC – Port Centers scenario
- Evaluation measures from workshop, symposium and survey
- Developed with Envision Tomorrow+, travel demand model, and GIS tools

Scenarios Presentation



- I don't get it...

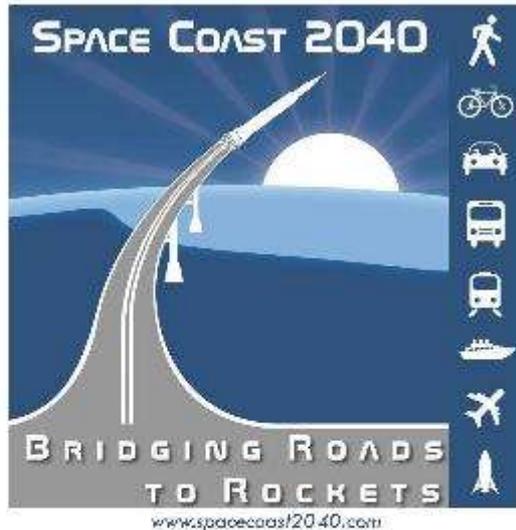


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PLANES, TRAINS, AND AUTOMOBILES

PLUS! BOATS, BRIDGES, ROADS, ROCKETS, BUSES, AND BICYCLES
URBAN HUBS? ALTERNATIVE MODES? AUTOMATED VEHICLES?



Brevard 2040 Transportation Choices Workshop

Wednesday, February 26th, 2014
8:30 AM - 12:00 PM

Brevard County School Board Room
2700 Judge Fran Jamieson Way
Viera, FL 32940

*Where are we going?
How do we get there?
You decide!*

Choices Workshop

- 3 hours
- 80+ participants
- LRTP overview
- Scenarios education
- Audience participation
- Transportation choices

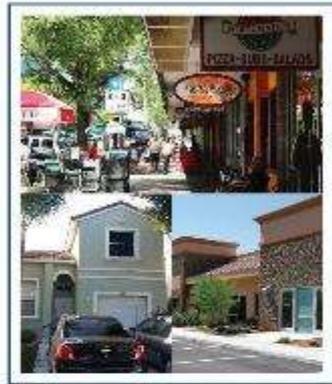
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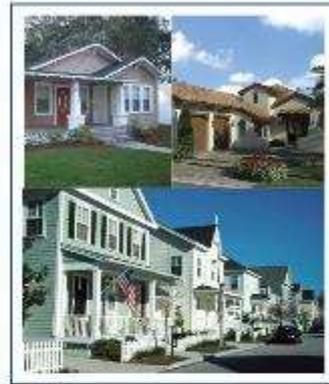
Matching Exercise



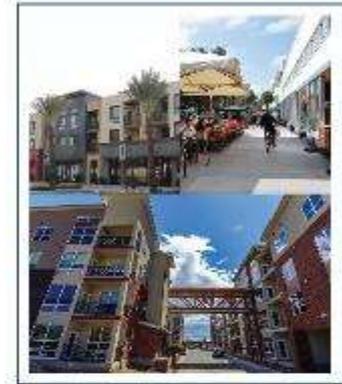
Urban Core



Mobility Hub



Traditional Neighborhood



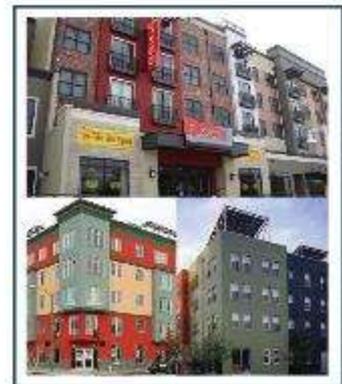
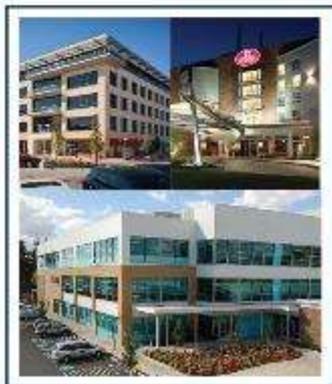
Multifamily Focus

Corridor

Single Family

Commercial

Employment Center



Transportation Choices Workshop

- *Best at positioning Brevard for economic prosperity*
- *Best at addressing Brevard's future population growth*
- *Best at protecting the natural environment*
- *Best at addressing the needs of all travel*



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Transportation Choices Workshop

- Provoke imaginations
- Each scenario focuses on one or more goals
- Not either / or options
- Vision is a composite of reactions



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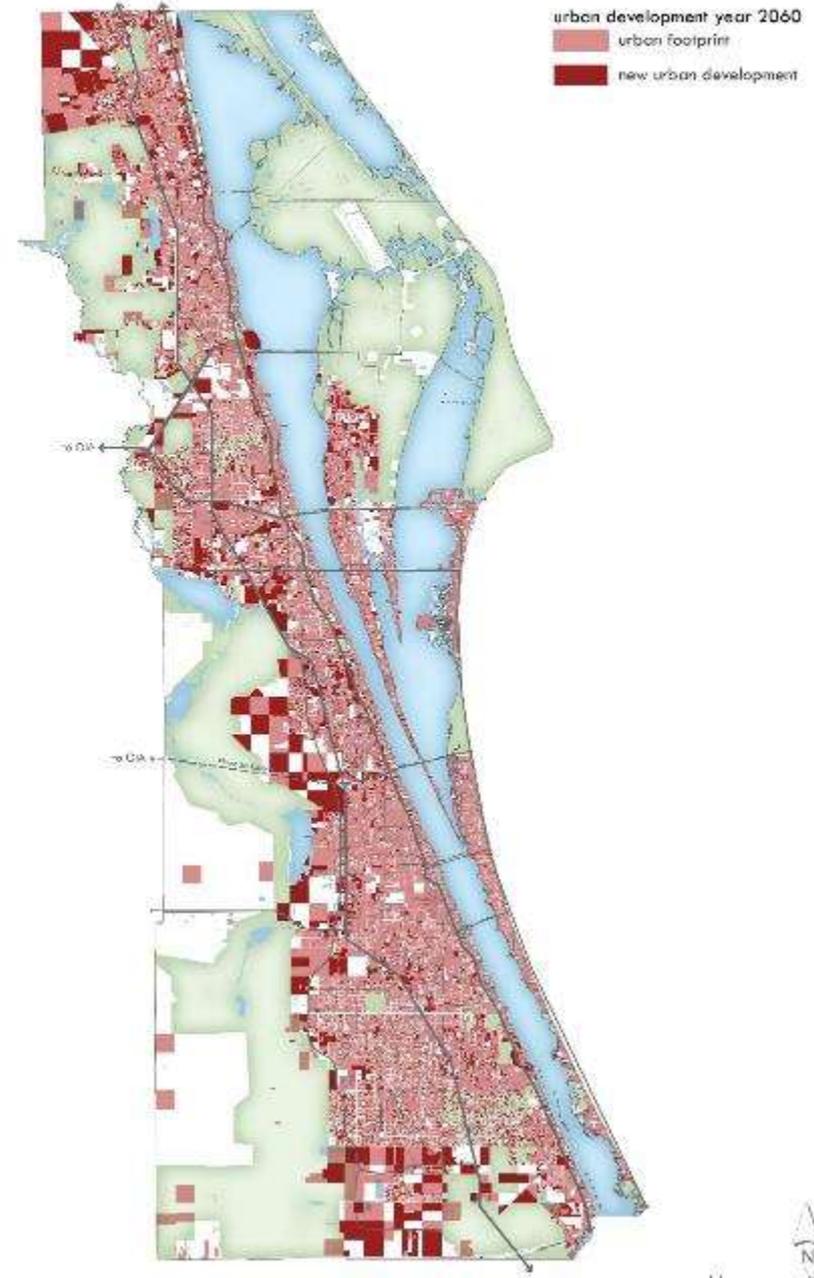


Scenario Highlights



- Development patterns continue as they have, and investments continue to focus on roadways
- 1960 - Minimal development clustered in Titusville, Cocoa and Melbourne
- 2010 - Much of land east of I-95 developed, new development west of I-95 in Palm Bay and Viera

CURRENT TREND YEAR 2060



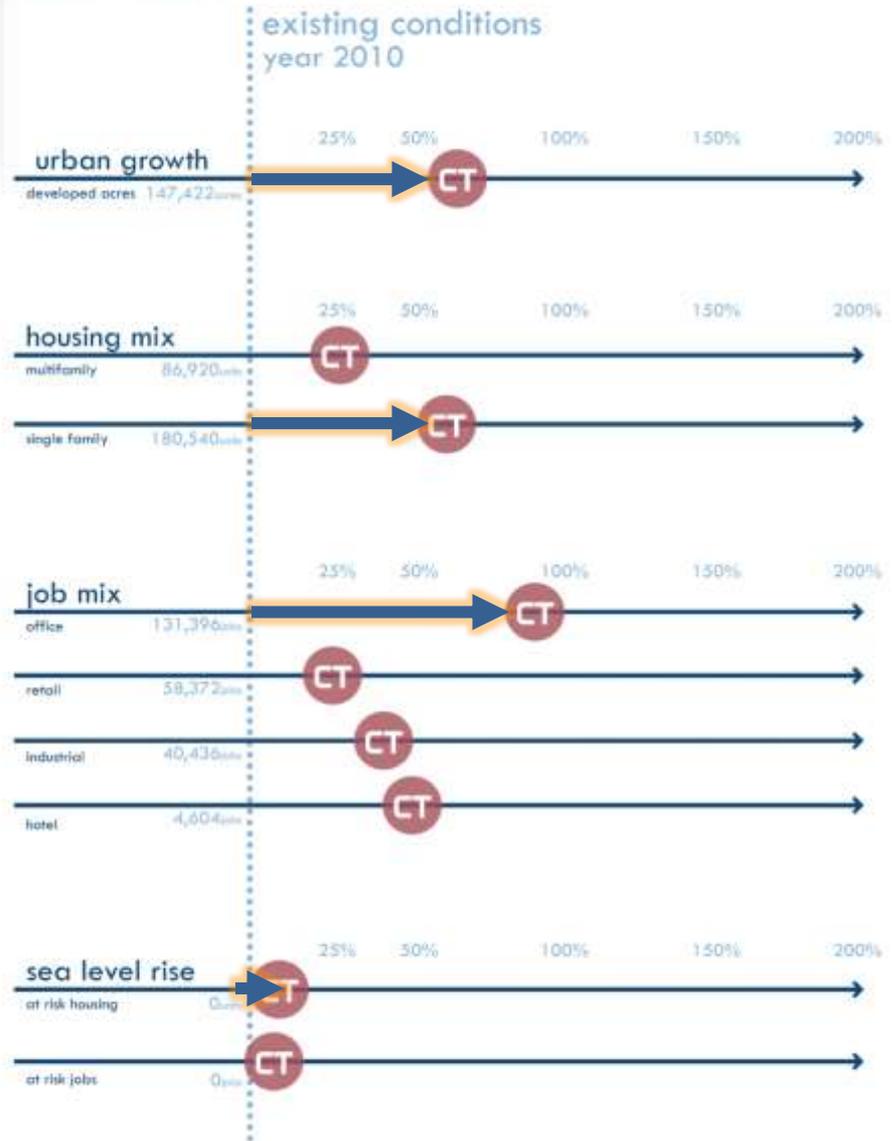
Impacts



- Developed land increases by 60 percent
- Most new homes are single family
- Most new jobs are office jobs
- Sea level rise impacts minimal (same for all scenarios)



LAND USE IMPACTS



Impacts



- Slight increase in those living in walkable communities
- Decrease in those working in walkable communities
- Investments continue to focus on roads
- Energy consumption and air emissions nearly double from today

CURRENT TREND YEAR 2060



TRANSPORTATION IMPACTS



Current Trend Reactions

- Positives
 - Single family housing
 - Planned communities
 - Familiar
- Negatives
 - Continues urban sprawl
 - Too auto reliant



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Alternatives Futures

- 3 other scenarios based on public input
- Each focuses on meeting common goals



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Port Centers



- Economic prosperity
 - Invest in ports
- Population growth
 - Jobs / housing near ports
- Protection
 - Compact communities
- Lifestyle
 - Transportation and housing choices

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CONNECTING TO THE WORLD AND BEYOND

PC PORT CENTERS

What does the future look like if...
we **invest** in our **ports** and the **connections**
between them?



SPACEPORTS

one of a handful of launch sites in the world



AIRPORTS

internationally ranked passenger airports & growing aerospace hub



FREIGHT RAIL

existing and future intermodal yards and facilities along the length of the County

PASSENGER RAIL

connecting Orlando to Miami in 2015 with potential future stations near Cocoa and Port Canaveral

SEAPORTS

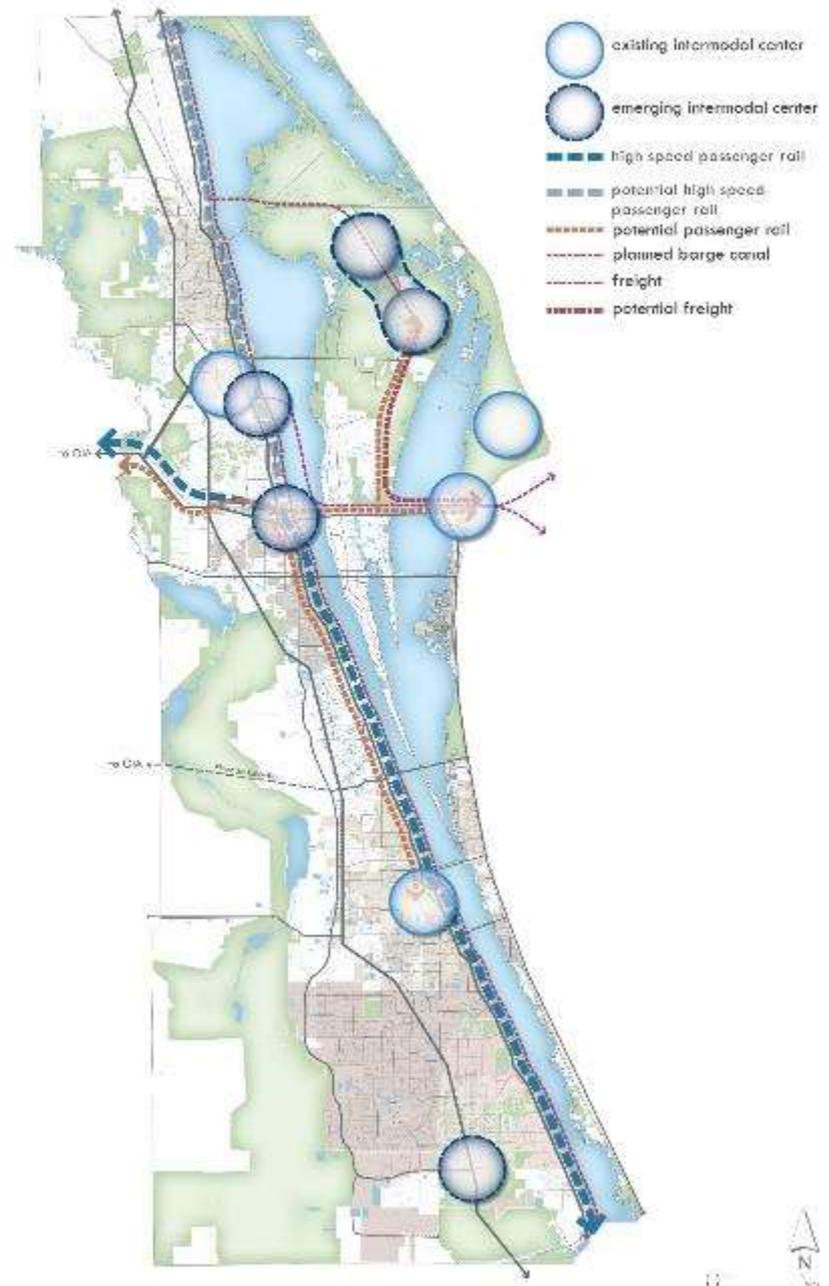
the second largest cruise ship port in the world, poised to become the largest



Port Centers



Investments are made in each of the ports and in freight and passenger rail that connects them



Port Centers Reactions

- Positives

- Emphasizes what is unique about Brevard
- Promotes walkability / transit
- Provides housing choices

- Negatives

- Focuses on northern County
- Large amount of industrial development
- Fewer liveable places



High Tech Lifestyle



- Economic prosperity
 - Invest in high tech travel and communities
- Population growth
 - Oriented around walkable high tech hubs
- Protection
 - Compact communities
- Lifestyle
 - Less reliance/need for work commute, more travel choices

CONNECTING HOW WE WORK TO WHAT WE DO

HTL HIGH TECH LIFESTYLE

What does the future look like if... our economic development **strategies** and transportation investments are made to support a **high tech** place to **live** and **work**?

CONNECTING VIRTUALLY
smaller mixed use buildings, working from home, window shopping

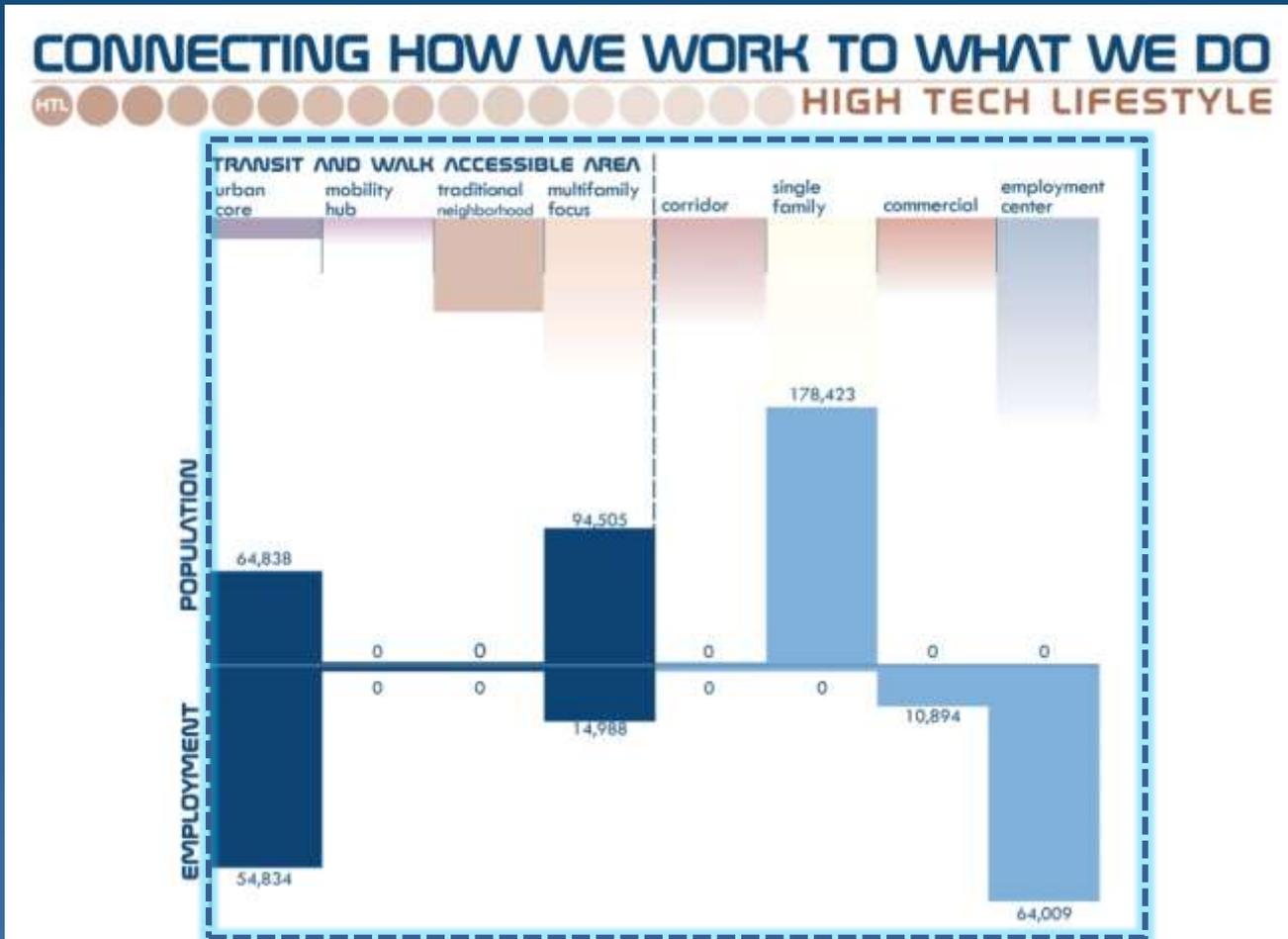
ROBOTICS
smart cars reduce accidents, park remotely, and will change the way we look at roads

HIGH TECH COMMUNITY
productive, efficient, vibrant centers minimize routine tasks and maximize time with friends and family



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High Tech Allocation

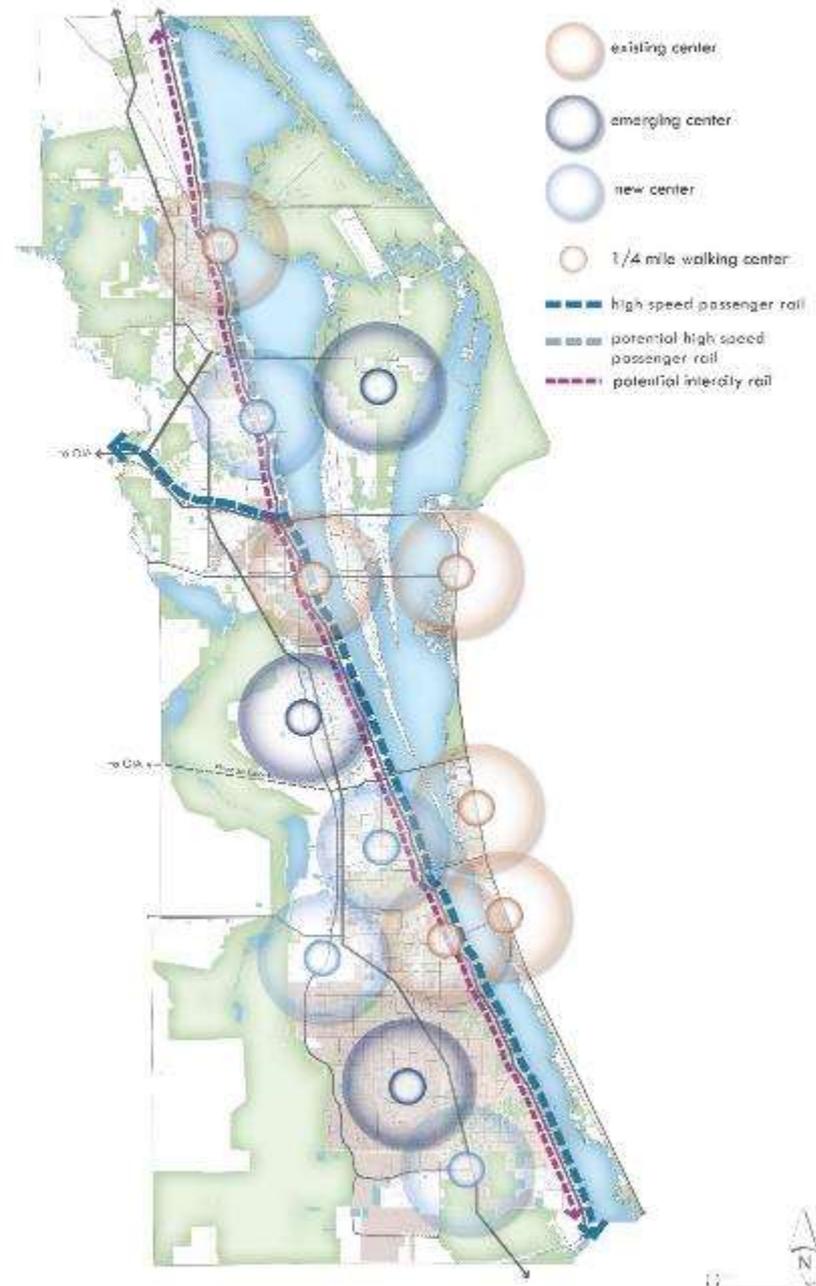


About the same number of people and jobs are in walkable and suburban places

High Tech Lifestyle



- More working and shopping occur from home
- Ability to work and shop in nearby walkable hubs
- Cars, roads and parking lots are more efficient and smaller



High Tech Lifestyle Reactions

- Positives
 - “Outside of the box” thinking
 - Creates “Silicon Valley” feel
 - Attracts next generation of workers
 - Working from home options
 - Walkable mobility hubs
- Negatives
 - Will technologies become reality?
 - Affordability of new technologies
 - Ability of older residents to adapt to new technologies



Connected Communities



- Economic prosperity
 - Invest in existing and new town centers
- Population growth
 - Oriented around walkable / transit oriented town centers
- Protection
 - Compact communities
- Lifestyle
 - Transit/multimodal and housing choices

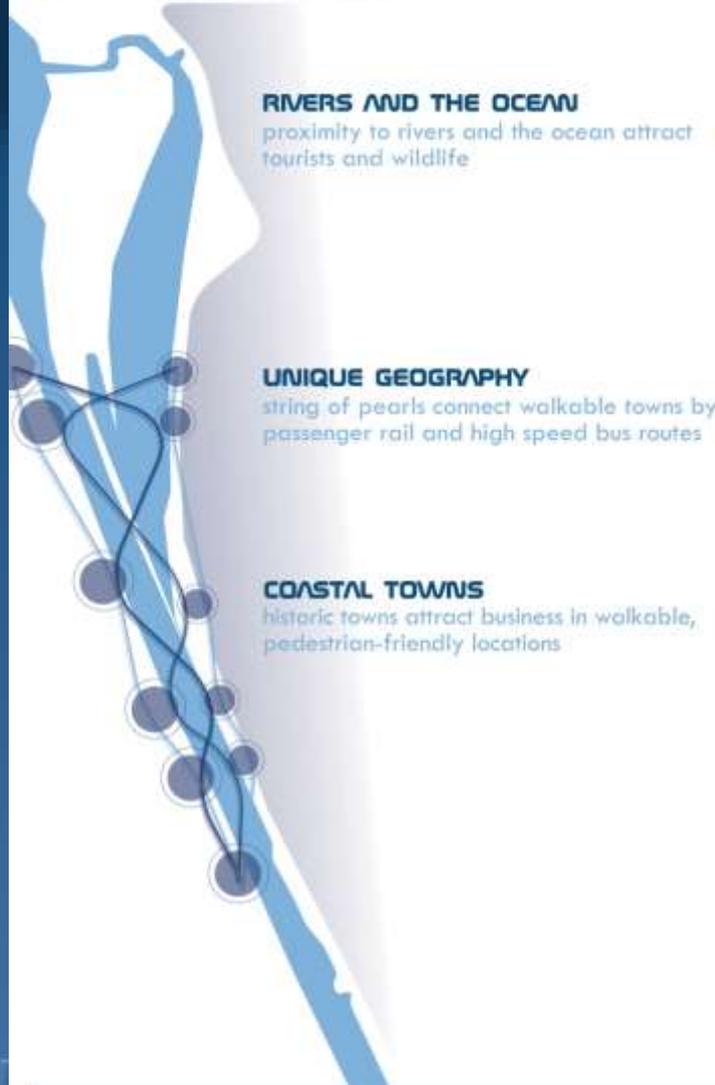
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CONNECTING TO WHAT IS UNIQUELY BREVARD

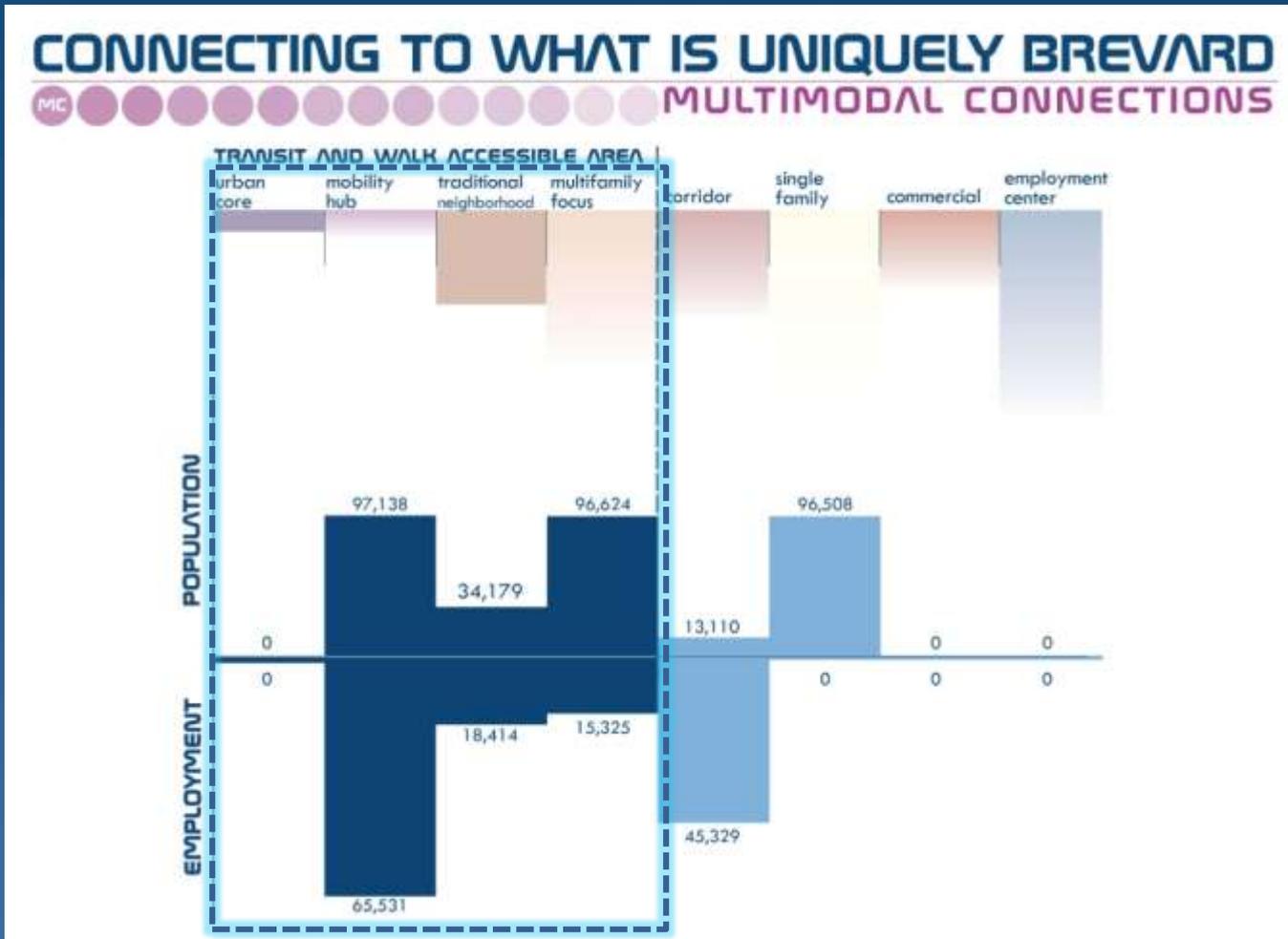
CC **CONNECTED COMMUNITIES**

What does the future look like if...

we **embrace** our **past** to **revitalize** our **riverfront** towns through coordinated **transportation** investments and supportive land use plans and policies?



Place Types Allocation



Compared to Trend, more live and work in transit oriented, walkable city and town centers

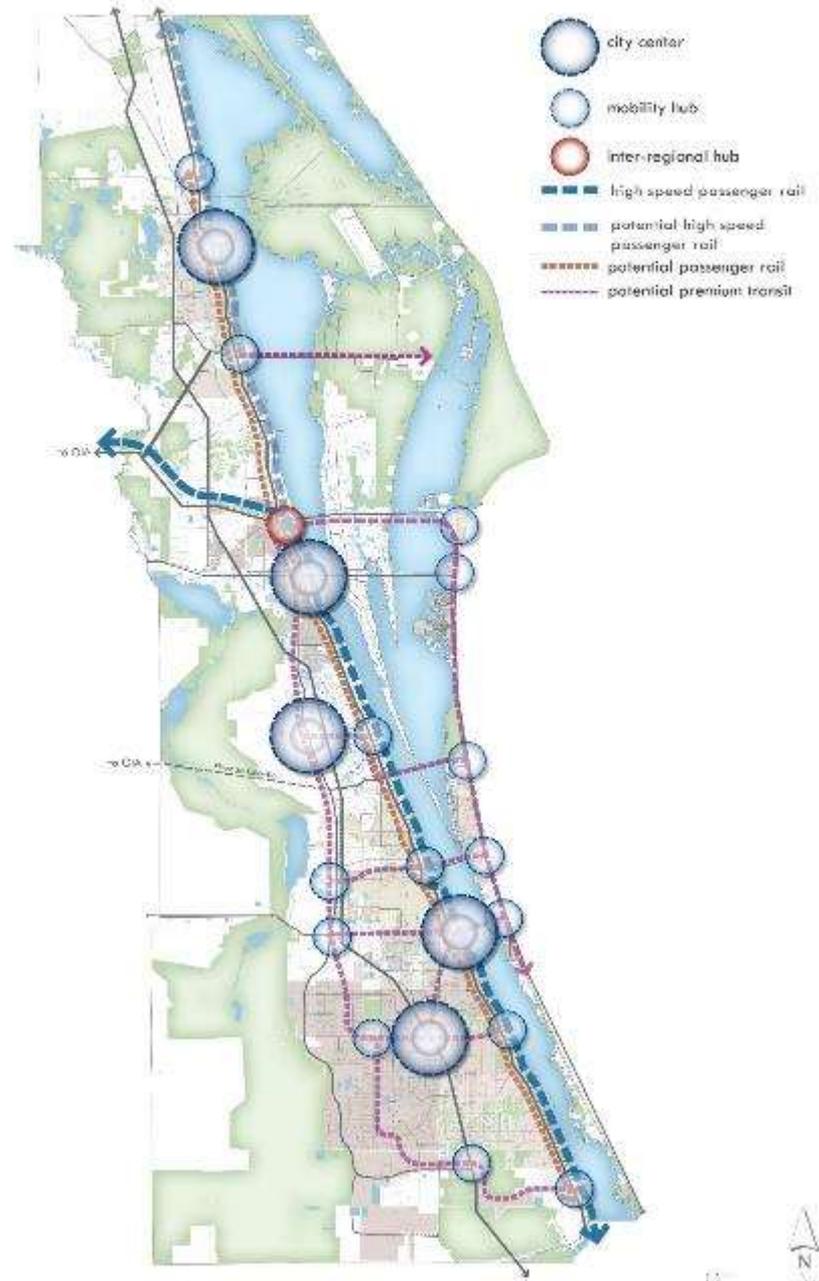
Connected Communities



- Growth is directed to existing and new town centers
- Investments are made in rail transit along the FEC and bus rapid transit connections

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CONNECTING TO WHAT IS UNIQUELY BREVARD CONNECTED COMMUNITIES



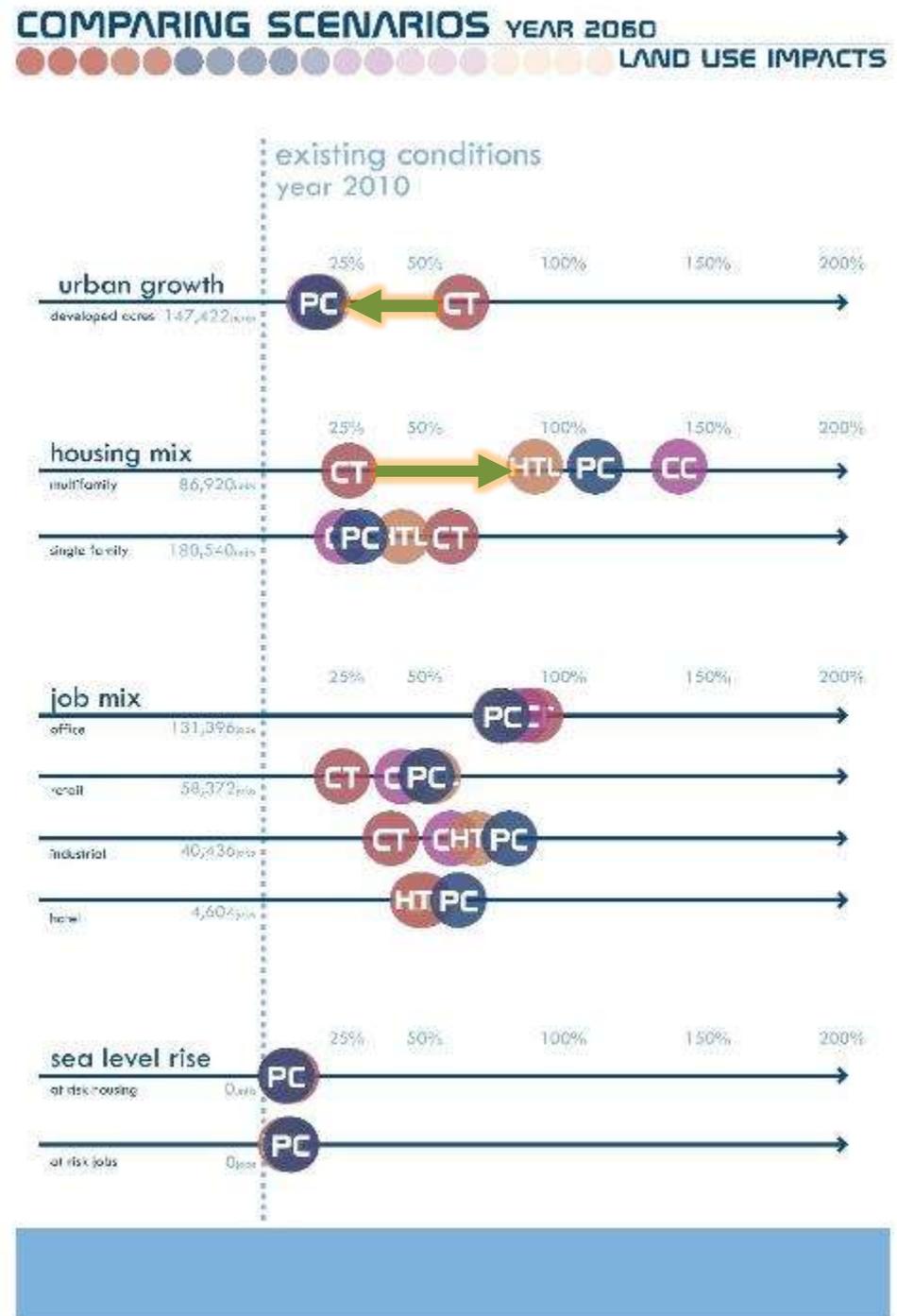
Connected Communities Reactions

- Positives
 - Concentrates growth
 - Multi-modal emphasis
 - Mix of housing options
- Negatives
 - Costs of bus rapid transit and rail improvements
 - Lack of identified economic drivers



Comparing with Trend

- New acres of developed land is reduced by more than half
- Higher proportion of new residents living in multifamily housing



Comparing with Trend

- Number living and working in walkable communities increases significantly
- Lower investment in roads, higher investment in transit / high tech
- Energy consumption and air emissions drop by 15 to 35 percent

COMPARING SCENARIOS YEAR 2060

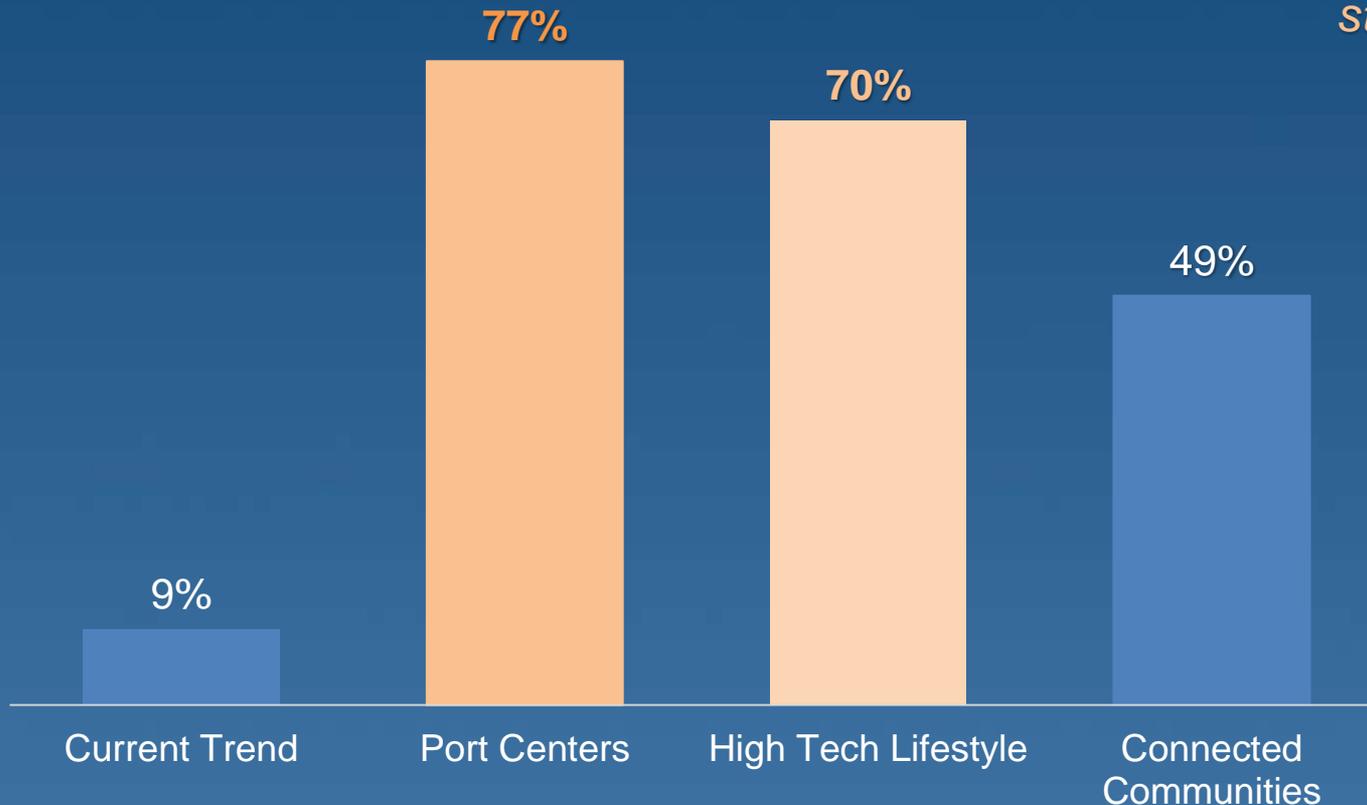
TRANSPORTATION IMPACTS



Scenario Comparisons among Goals

Best at positioning Brevard for economic prosperity

Leveraging ports and high tech are sound economic development strategies



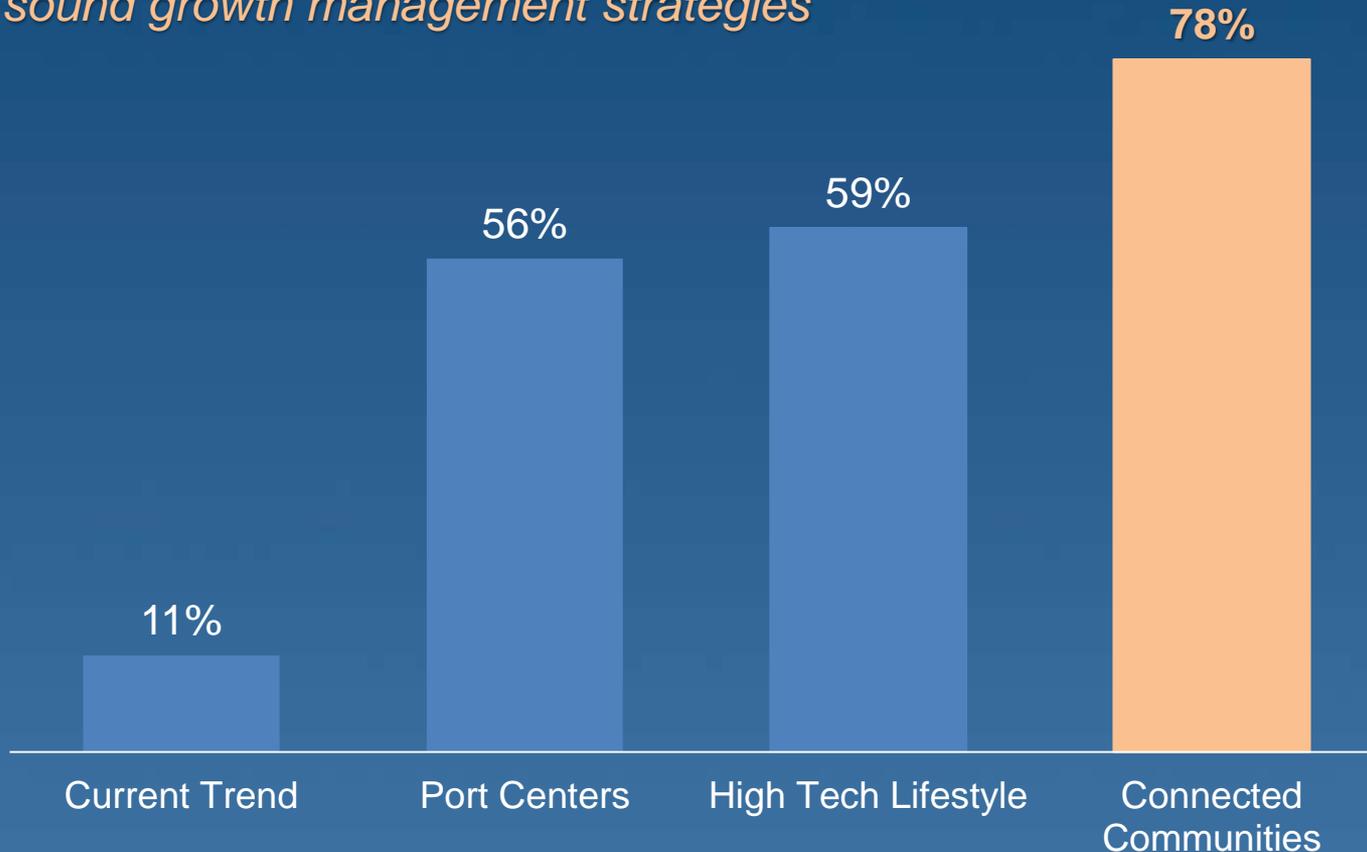
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Scenario Comparisons among Goals

Best at addressing Brevard's future population growth

*Increasing place type options and travel choices
are sound growth management strategies*



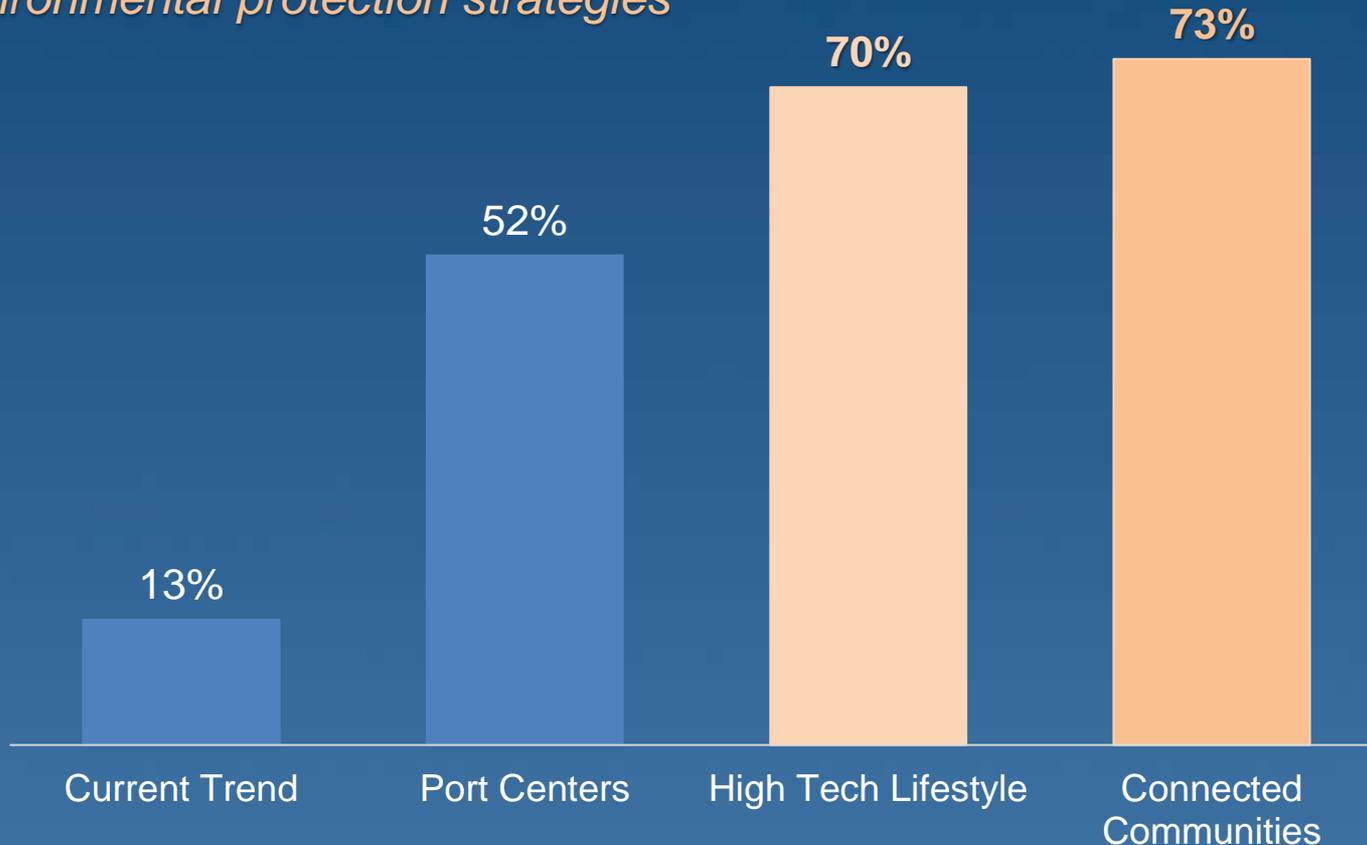
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Scenario Comparisons among Goals

Best at protecting the natural environment

Compact communities, travel choices and high tech are sound environmental protection strategies



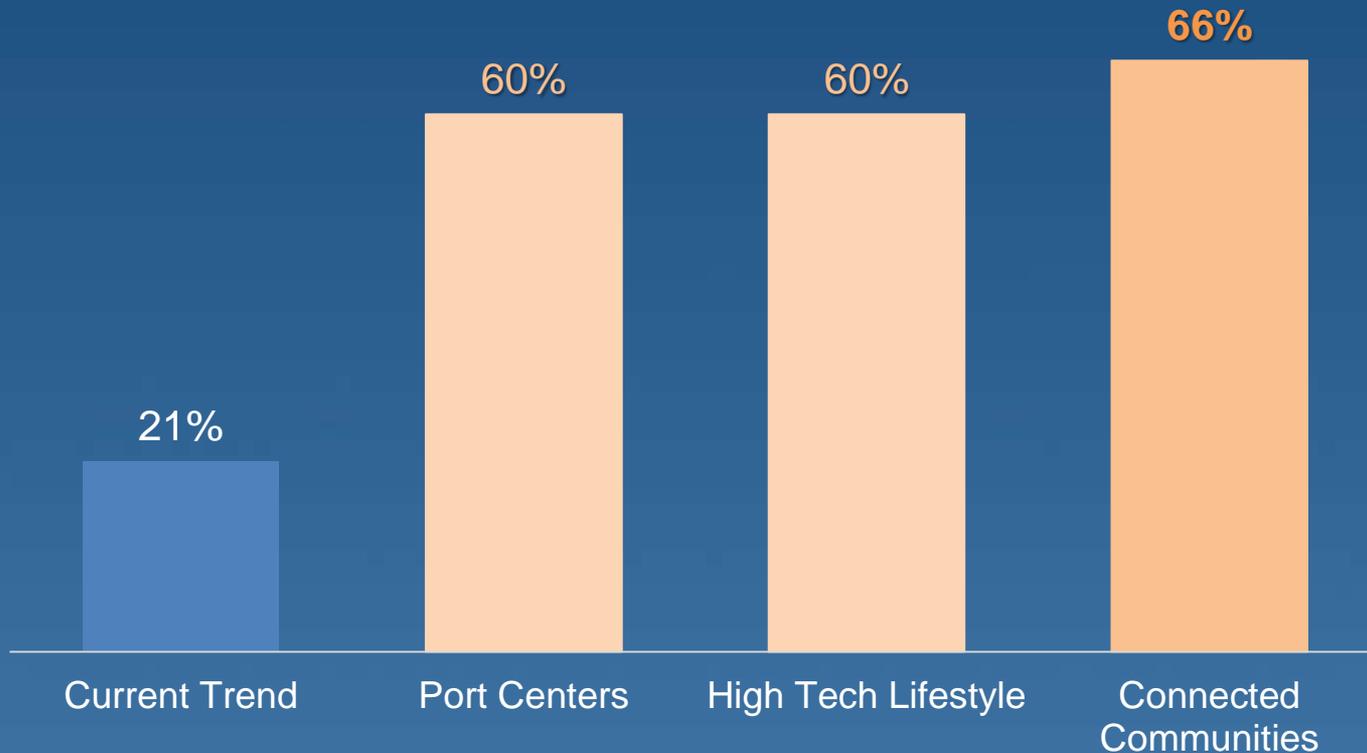
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Scenario Comparison among Goals

Best at meeting the way I live and travel

Each of the scenarios improves quality of life over the Trend



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Vision Themes

- Economic prosperity
 - ***Leverage what's uniquely Brevard***
 - Invest in ports
 - Continue high tech focus
- Address population growth and protect environment
 - ***Find the right balance for growth***
 - More compact communities
 - Less reliance on autos
- Improve the way I live and travel
 - ***Provide a wider range of community and travel options***
 - Wider variety of housing
 - More transportation choices



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TPO Vision

- **Destination (place) types**

- ◻ Intermodal

- ◻ Regional multimodal

- ◻ Neighborhood multimodal

- **Corridor types**

- Intermodal roads

- Intermodal rail

- ◻ Inter county (passenger and freight)

- ◻ Intra county (freight only)

- Multimodal

- ◻ Inter-county

- ◻ Intra-county



Multimodal Corridors

- **Vision map:**
 - Guides corridor plan locations
 - Guides transit technology types
 - Guides transit station typology
- **Corridors**
 - Transit technologies
 - Commuter rail
 - Bus rapid transit
 - Interconnections
- **Station types and locations**
 - Regional
 - Intermodal
 - Regional multimodal
 - Multimodal



Long Range Transportation Plan

- Vision Plan set context for LRTP update
- Informed Goals and Objectives
- 2040 update interim to longer term vision
- Portion of revenues set aside for multimodal, vision-supportive investments
- Corridor approach to plan analysis/organization

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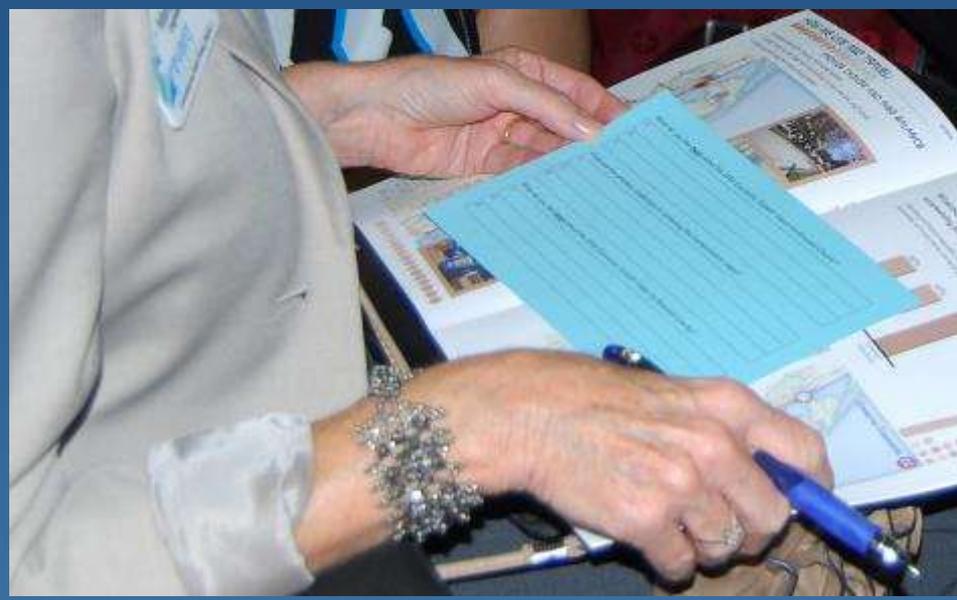


Transportation Vision Workshop

- 1 Hour
- 100+ participants
- Choices results
- FHWA certification
- TPO Board participation
- Vision Vote

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Corridor Planning Workshop

- 1.5 Hours
- Two Events
 - Technical Staff
 - Public

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CLEARLAKE DRIVE/ SR 524	
From: SR 520	Functional Classification: Urban Minor Arterial
To: E Industry Road	Corridor Length: 8.0 miles
Jurisdiction(s): Cocoa	

CORRIDOR PROJECTS						
Period	Project Type	Facility	From	To	Description	Net Cost*
2021-2035	Highway Capacity	Clearlake Rd.	Michigan	Industry Rd	Widen to 4 lanes	\$8,311
		SR 524	I-95 Interchange (South)	Industry Rd	Widen to 4 lanes	\$17,433

Total: \$25,744

ITS Program	ITS	SR 501	SR 520	SR 528	ITS improvements	\$559
Multimodal Program	Bike/Ped	Clearlake Rd	2600' E of E Industry Rd	King Street	Designated Bike Lane	\$368
		Clearlake Rd	400' S of W King St	Range/ Pluckebaum Rd	Paved Shoulder	\$68
		Friday Rd	Highway 524	2300' south of Highway 524	Paved Shoulder	\$48
		Cox Rd	SR 524	800' north of W King Street	Sidewalk	\$218
	La Marche Dr	Otterbein Ave	Michigan Ave	Sidewalk	\$50	
	Complete Streets	Michigan	Range	Clearlake	Complete Street	TBD
Unfunded	Transit	West Cocoa Circulator			New fixed route service	\$300

*Cost estimates reflect publicly funded capital costs in \$000's YOY. Estimated costs for Program and Unfunded projects are represented in present day dollars.

REFERENCE DOCUMENTS

- Space Coast Bicycle and Pedestrian Mobility Plan (2013)
- Space Coast TPO Complete Streets Evaluation Methodology (2014)
- Space Coast TPO ITS Master Plan (2014)
- Space Coast Area Transit Development Plan (2012)

CORRIDOR LOCATION MAP



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Scenario Choices



Transportation Vision



Corridor Planning



Cost Feasible Plan

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Long Range Transportation Plan Update Scenario Planning



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Scenario Planning as part of a Long Range Transportation Plan Update

Space Coast 2040 LRTP

AMPO Annual Conference, October 22, 2015

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