Paying to Play



2013 American Planning Association Florida Chapter Conference

Panel Line Up

- Managed Lanes More Than a Revenue Tool
 - Darren Henderson, AICP, Parsons Brinckerhoff
- The MPO Perspective Value Pricing
 - Eric Hill, MetroPlan Orlando
- Bus Toll Lanes (BTL) Proof-of-Concept Study
 - Bob Frey, AICP, Tampa Hillsborough Expressway Authority
- Planning Integrated Communities
 - Abra Horne, AICP, Parsons Brinckerhoff



Managed Lanes -More Than a Revenue Tool



Pennsylvania Turnpike (c. 1940)

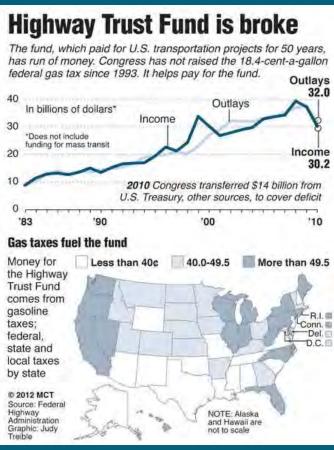


CA-125 Southbay Expressway, San Diego, CA (2008)

 Tolling has been used throughout the history of highway transportation

- All users are charged a flat toll for using the roadway
- Toll revenues repay the cost of constructing and operating the facility

Paying to Play for Transportation



Source: McClatchy Newspapers, July 2, 2012

- Highway Trust Fund was created in 1956
 - Established federal taxes on motor fuel to fund highways (Interstate system)
- HTF outlays now exceed income
 - Vehicle efficiency, gas prices and economics have declined revenues
 - Travel demand and construction costs increase expenditures

Paying to Play for Transportation





M-1 Managed Motorway, Melbourne, AUS

- Increased emphasis recently on improving highway performance efficiency and operations
 - Increase the productivity of the infrastructure we have
- Opportunity to integrate
 innovative ways to help fund
 transportation facilities

Congestion Pricing



I-35W, Minneapolis, MN (source MNDOT)

 Refers to the use of tolling to better regulate travel demand

- Typically uses variable tolls based on traffic conditions
- Incentives for alternate modes
- Electronic tolling technologies
- Also sometimes referred to as dynamic pricing or value pricing

Congestion Pricing



Electronic Road Pricing, Singapore

 Common forms of congestion pricing are:

- Area or cordon pricing
- Corridor pricing
- Additional strategies that can incorporate congestion pricing include:
 - Parking pricing
 - Mileage-based user fees



Electronic Road Pricing, Singapore

 Charges a toll for entering or exiting as specific area
 Tolls typically vary based on time of day

Examples include:

- Singapore Electronic Road Pricing (ERP)
- London Congestion Charge
- Stockholm Congestion Tax (Trängselskatt)





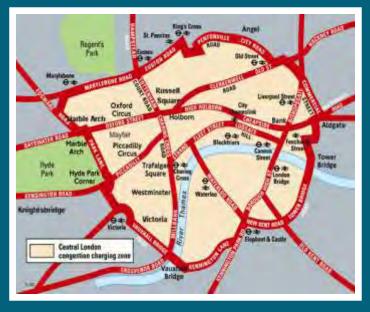
Singapore Electronic Road Pricing (ERP) was introduced in 1998

- Tolls are charge at approximately 80 ERP gantries located along roads leading into and within the Central Area
- Tolls vary by location and time of day, ranging up to \$\$6.00 (\$4.70)
- LTA is currently testing a GPS based system

Traffic has reduced by 13%

 Tolls are varied to maintain average speeds of 20 km/h to 30 km/h on local streets and 45km/h to 65 km/h on Expressways





London Congestion Charge was introduced in 2003

A £10 (\$15.60) toll is charged each day that a vehicle is operated within the Congestion
 Charge Zone (CCZ) in central London between
 7:00 AM and 6:00 PM Monday to Friday,
 regardless of the number of times the vehicle enters or exits

Traffic has reduced by 15%

 Around 50–60% of this reduction is attributed to transfers to public transport, 20–30% to avoiding the zone, and 15–25% to carpooling



Source: City of Stockholm



 Stockholm Congestion Tax was first trialed in 2006

- Charges 10 SEK to 20 SEK (\$1.60 to \$3.20) to enter or exit the Stockholm city center depending on the time of day up to a maximum of 60 SEK (\$9.60) per day
- Traffic within the city center has reduced by 18%
 - Transit ridership has increased 4.5%
 - Peak period delays entering the city have reduced by 50%



I-85 Express Lane, Atlanta, GA (source GDOT)

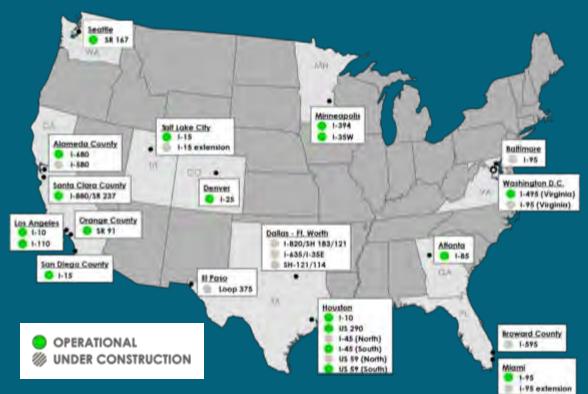
 Charges a toll for using a dedicated lane or roadway

- Tolls typically vary based on traffic conditions
- Transit or carpools are typically allowed toll free

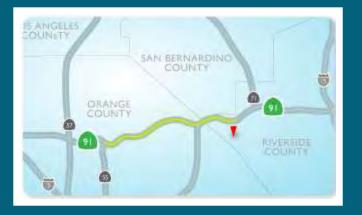
 Commonly referred to as Managed Lanes, Express Lanes or High-Occupancy Toll (HOT) Lanes

 Most common form of congestion pricing in the United States

 18 corridor pricing projects currently operate in the U.S.







Source: OCTA

 SR-91 Express Lanes was the first corridor pricing project in the U.S.
 opening in 1996

 Tolls range from \$1.40 to \$9.55 for a 10 mile trip, depending on the time and day

 SR-91 Express Lane users can save in excess of 30 minutes travel time

 Net revenues on SR-91 exceed \$25 million per year





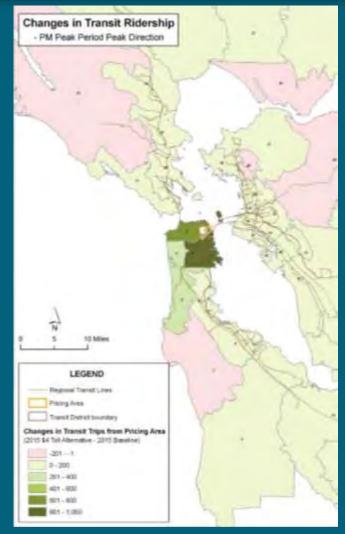
I-10 and I-110 ExpressLanes
 converted existing HOV lanes
 to HOT in Los Angeles

- Tolls range between \$0.25 and \$1.40 per mile based on traffic conditions
- Switchable transponder for HOV declaration
- Speeds in lanes are maintained above 45 mph
- 1 \$140 million in transit

improvements included in project

Transit ridership has increased by 36%

Parking Pricing



Parking pricing can be used as a surrogate for area pricing
 Parking pricing can affect travel

demand

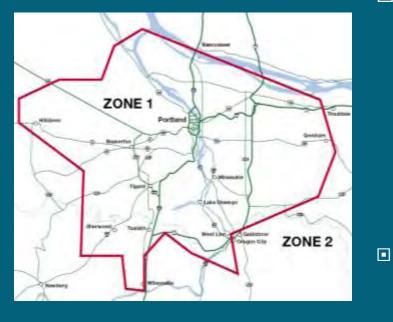
 San Francisco Mobility, Access and Pricing Study (MAPS) considered the effects of parking pricing

 \$4.00 peak period charge is estimated to reduce vehicle trips in the central area 15% and increase transit ridership 10%

Mileage Based User Fees



Source ODOT



 Charges a fee based on the distance a vehicle travels

 Fees can be varied based on time, day, location and facility type

 Oregon tested a "Vehicle Miles Traveled Collected at Retail" (VMTCAR) system in 2006

- GPS tracks and records travel information
- Fee paid with fuel purchase

Oregon is currently considering implementing a 1.5 cents per mile VMT tax Scan this barcode using a QR Reader on your smart phone and LIKE us on Facebook!



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BEER OF THE WEEK \$2 off after 6pm \$1 off before 6pm

Ask your server for details.

The MPO Perspective – Value Pricing



2013 American Planning Association Florida Chapter Conference



Metroplan orlando



MetroPlan Orlando

Planning Process

• Value Pricing Pilot Project

• Key projects in the Region



MetroPlan Orlando

- Long Range Transportation Plan (LRTP)
- Transportation Improvement Program (TIP)

• Unified Planning Work Program (UPWP)

LRTP 2030

Transit friendly Mixed land-use* **Higher density Road oriented** Vehicle friendly Sprawl

Map Key

Highway

Hamlet: Less than 4,999

- Village: 5,000-9,999
- Town: 10,000-29,999
- E Small City: 30,000-49,999
- Medium City: 50,000-99,999
- Regional City: 100,000 or more

County Border

Undeveloped Area (2050)

Recommended Conservation (2050)

Existing Conservation (2006)

Major Water Bodies

Developed Area (2005)

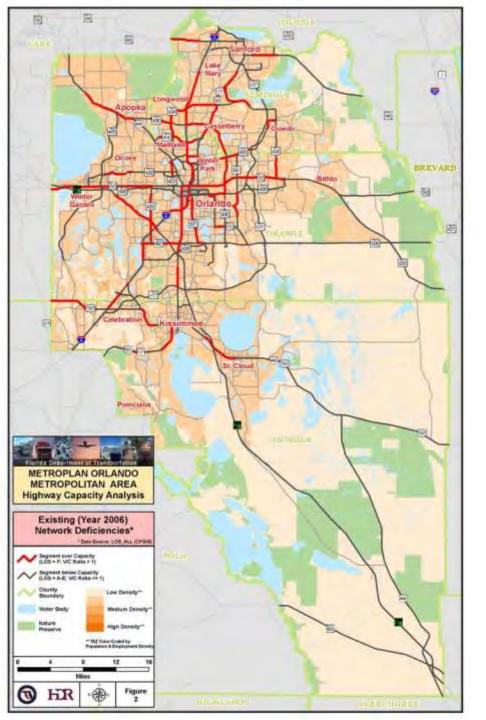
Active Railroad

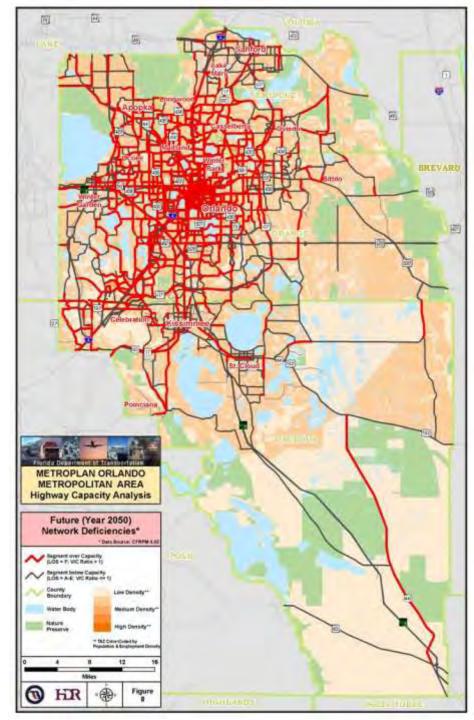
Inactive Railroad

Future Needed Multi-Modal Transportation Connections Map Area

VAPARKWAY

4





Revenue Sources





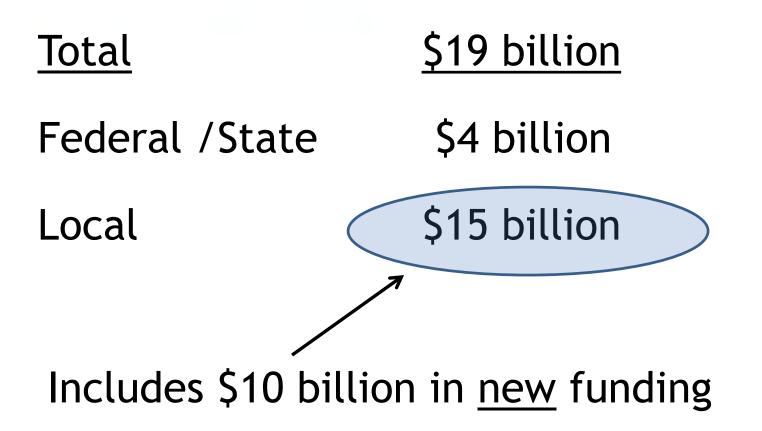
Benefit/Cost



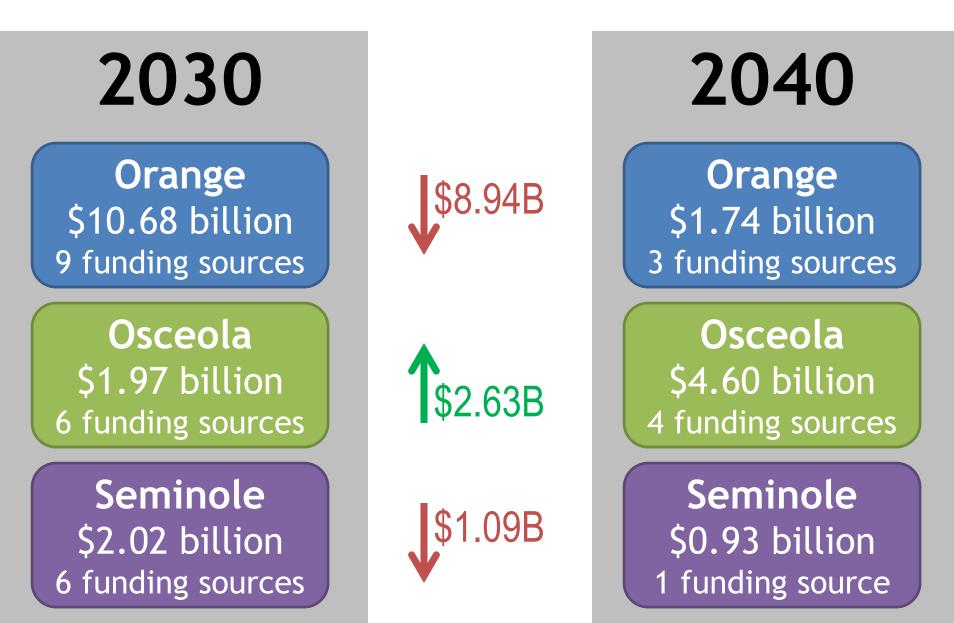


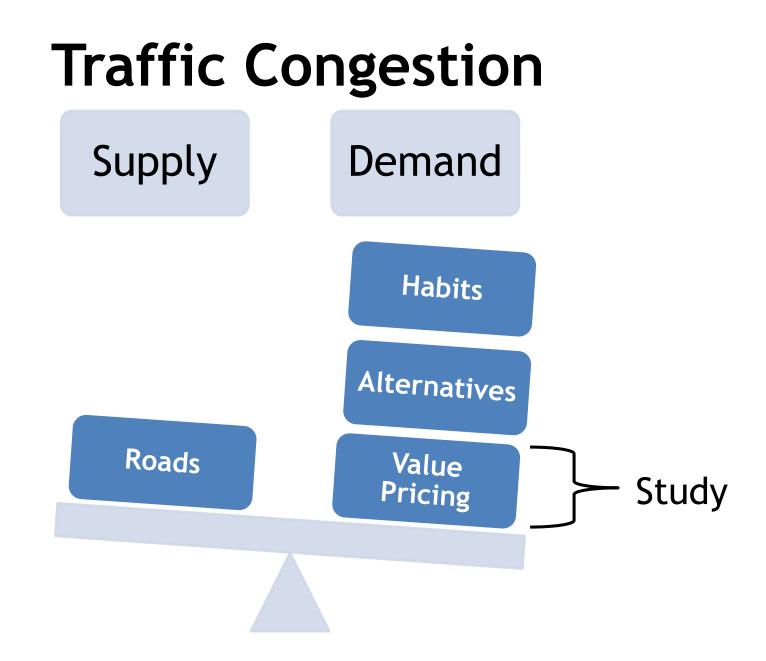


Year 2030 LRTP Funding Summary



Local Funds for Capital & Transit





What Is Value Pricing?

Traffic management strategy to reduce congestion using pricing of transportation facilities and/or incentives change travel behavior.

Impacts of Value Pricing

• Environmental and Livability

- Source of Funding for Transportation Investments
- Multimodal Transportation System Performance

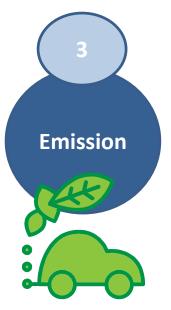
Interagency Collaboration

Objectives of Value Pricing Study

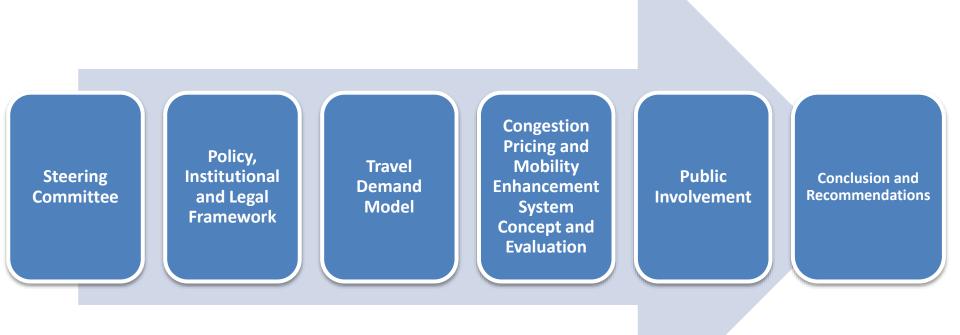
Management and Operation







Value Pricing Project Scope



Multimodal/Toll Projects











Metroplan orlando

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Future Partnerships Between Tolls and Transit

Bus Toll Lanes (BTL) Proof-of-Concept Study

A New Transit Concept that:

- Combines Transit with Value Pricing
- Creates Financially Sustainable Public Transportation



FHWA Value Pricing Pilot Program



What is a Bus Toll Lane?

- New capacity on "Price-Managed Lanes"
- Owned by and dedicated 1st to transit
- Price management = free flow operations (provides sustainable choice to drivers)
- Guaranteed capacity, level-of-service, schedule reliability and lower fares for BRT and Express Bus (makes transit a competitive choice)
- Sells <u>ALL</u> remaining capacity (no free rides)

What is a Bus Toll Lane?

- <u>The Primary Benefit</u>: Revenue sharing provides public transit agencies with a <u>sustainable</u> source of operating funds.
- Capital Funding = EQUITY IN = REVENUE OUT
- New Transit Fare Box
- Passenger Fares + Toll Revenue = Sustainable *inflation sensitive* revenue stream for transit



What is a Bus Toll Lane?





BTL # 1: 65 Miles; \$591 Million CapEx



BTL # 2: 45 Miles; \$719 Million CapEx

Three Unique Networks Studied



BTL # 3: 52 Miles; \$1.1 Billion CapEx

Traditional Funding

Premium Bus Service

Dollars in Millions	New Premium Bus
Bus Capital Cost	\$31

Bus Revenue	\$58
Bus O&M Cost	\$559
Net Revenue	(\$501)

Unfunded Operating	(\$501)

Traditional Funding

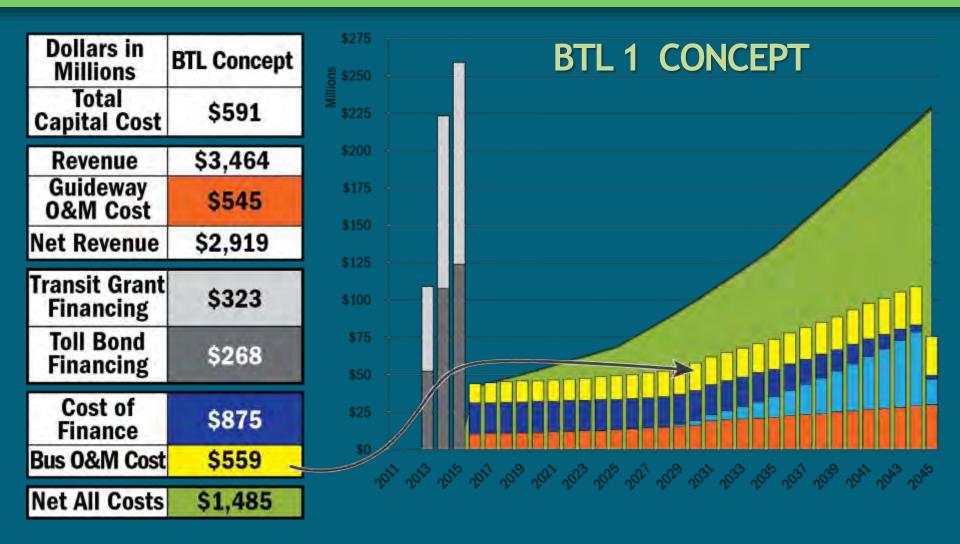
Premium Bus Service

Dollars in Millions	New Premium Bus
Bus Capital Cost	\$31
Bus Revenue	\$58
Bus O&M Cost	\$559
Net Revenue	(\$501)
Unfunded Operating	(\$501)

Price Managed Lane

Dollars in Millions	Fixed Guideway		
Guideway Capital Cost	\$560		
Toll Revenue	\$3,406		
Guideway O&M Cost	\$545		
Net Revenue	\$2,861		
Toll Bond Financing	\$268		
Cost of Finance	\$858		
Net All Costs	\$2,003		
Unfunded Capital	(\$292)		

BTL 1 Concept - Funding



Transit Ridership Growth

Transit Ridership Forecasts - Opening Year (2015)					
Weekday Boardings		Annual R	iders		
Network	Existing Express Routes	New BTL Express Routes	Total New BTL Express and BRT Routes	Ridership	Transit Use Growth within BTL Corridor
BTL 1	3,325	12,381	15,706	4,005,030	472%
BTL 2	5,176	14,238	19,414	4,950,570	375%
BTL 3	1,280	22,094	23,374	5,960,370	1826%

- Premium express bus routes developed for each BTL network
- Existing express bus and BRT routes identified that would use the BTL network to enhance the performance of transit in the vicinity of the BTL corridors
- Attractive travel times produced significant growth of transit ridership in all networks

Comparison to Other Lane Types

BTL – MOVE PEOPLE!				
Condition (Vehicle Occupancy Rate = 1.1)	Buses Per Hour	Person Throughput Per Hour	Comparison to General Purpose Lane	
General Purpose Lane With Severe Congested	0	1100	100%	
Price-Managed Express Lane No Transit	0	1815	165%	
BTL 15 Minute Headway	4	1977	180%	
3TL 10 Minute Headway	6	2058	187%	
BTL 5 Minute Headway	12	2302	209%	
BTL 2 Minute Headway	30	3032	276%	
BTL 1 Minute Headway	60	4248	386%	



BTL Transit Concept – Investment Benefit Medium Scenario – Dollars in Millions

BTL 1 – Return on Transit Grant Investment				
Transit Grant (Local, State, Federal)		\$323		
Bus Operating Subsidy	\$501			
+ Net System Revenue	\$1,485			
	\$1,986 /	\$323 =	617%	

BTL 2 – Return on Transit Grant Investment				
Transit Grant (Local, State, Federal)		\$568		
Bus Operating Subsidy	\$545			
+ Net System Revenue	\$467			
	\$1,012	/ \$568 =	178%	

BTL 3 – Return on Transit Grant Investment				
Transit Grant (Local, State, Federal)		\$838		
Bus Operating Subsidy	\$510			
+ Net System Revenue	\$759			
	\$1,269	/ \$838 =	151%	



BUS TOLL LANES

a Transit Concept that provides....

- FINANCIAL potential that no other transit service can replicate
- SUSTAINABLE and expandable Transit Service
- OPPORTUNITY to help advance transportation solutions sooner

BTL Study Recommendations

Policy guidance and assistance is needed from FTA to optimize federal funding by transit agencies who wish to be equity partners in the construction and operation of BTL networks

- Ensure BTL projects are well defined as eligible "fixed guideway" transit solutions in the next authorization for agencies who wish to construct and operate BTL projects
- Establishment of a pilot program to support the development and operation of BTL networks

Questions?

For additional information please contact: Bob Frey - 813-274-6740, ext 203 bobf@tampa-xway.com

Tampa-Hillsborough County Expressway Authority Joe Waggoner, Executive Director

Robert Frey, Planning Director





Planning Integrated Communities

Planning Integrated Communities

- Why did you become a planner?
- What does the community want?
- Does it need something else?
- Are we aware of emerging trends?
- Have we analyzed their impacts?
- What do we need to accomplish change?

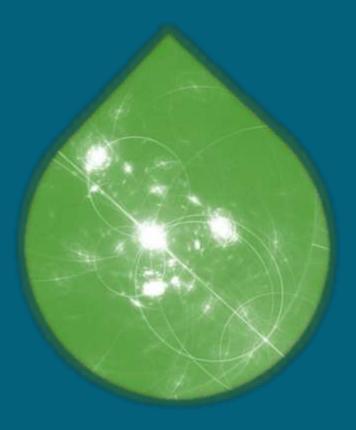


Why I Became a Planner

Linear Model

Organic Model





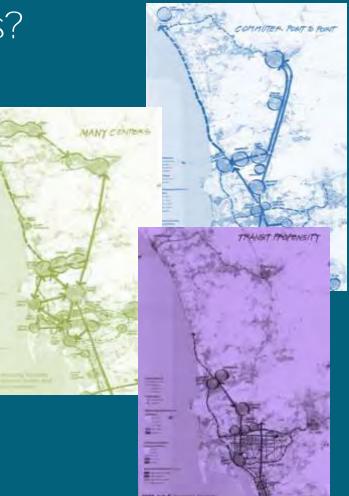
Community Evolution

- Settlements Emerge
- Investment in Infrastructure
- More Development
- undesirable Outcome
- Desire to improve
- Investment in infrastructure
- communities arent really built they evolve
- how do we guide and support this organic process?

What Does The Community Want?

Are we challenging the trends?

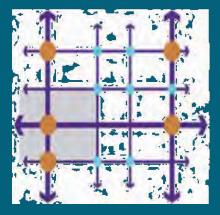
- Optimize land use/ transit use
- Consider the price of parking
- Fare reduction
- Increased headways
- Reduced running times (30%)



Charrette Reporting

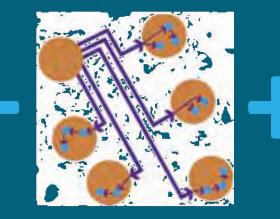
integrated \$ last mile connection veliate & samless dian frequent, kas Than 15 min the headway trave BRT/bus Competi Services Easv transfers trave Competitive CONSISTENT Conveniont UN.DERSTANDABLE AND SAFE Conprehensive SERVICE Single-seat-ride STODS USE

Something Else - Retooling Our Process



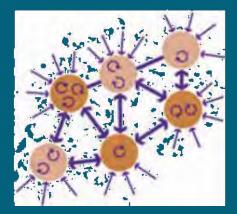
Multimodal Needs

Focuses on Most Urbanized Areas



Mobility

Focuses on Access to Work/ Express



Connectedness

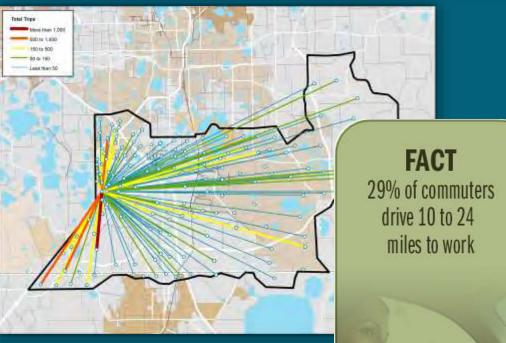
Focuses on Most Desirable Smart Growth Areas

How Do We Analyze Our Community?

- Thinking about community evolution
- Can we retool our process?
- Available Tools
 - Charrette Reporting
 - Mapping travel demand
 - Testing scenarios
 - Understanding job to housing relationship
 - Geospatial tools

Awareness of Emerging Trends

Jobs
Aging
Lifestyle
Revenues





Revealing Roadblocks

No vehicle available:

- Palm Beach County 5%
- Broward County 5%
- Miami-Dade County 9%

Workers using transit:

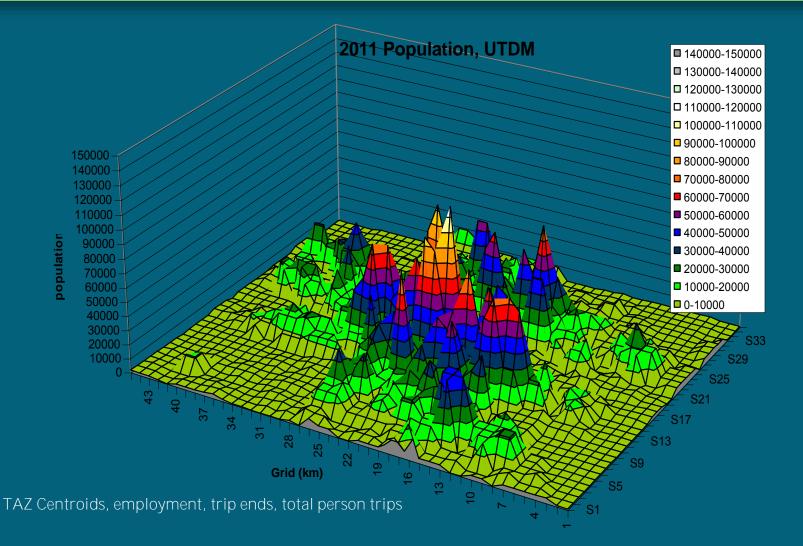
- Palm Beach County 2.5%
- Broward County 4%
- Miami-Dade County 11%



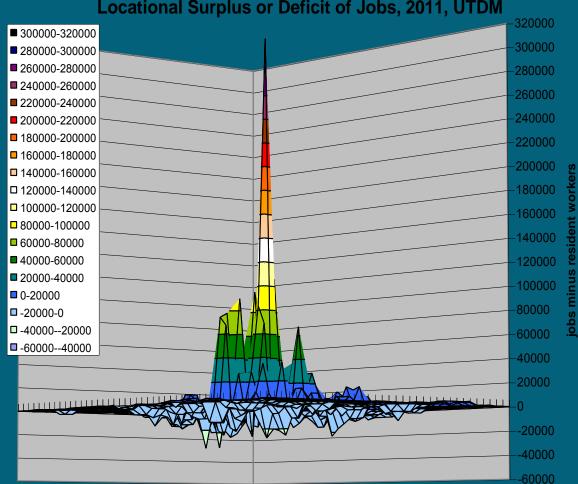
Do We Have What We Need to Change?

- What do we hope to accomplish?
- Where do we make investments?
- Can we explain why?
- How do we use our scarce resources?
- Do we explain trends clearly to community and leaders?

Understanding Travel Markets



Location Analysis



Locational Surplus or Deficit of Jobs, 2011, UTDM

Percentage And Numeric Gains In Transit Trips Unconstrained; Headway Sensitivity Test

Note large numbers of intra-district trips in districts 2 (Mid-City), 4 (South Bay), and 13 (Escondido-Oceanside)

