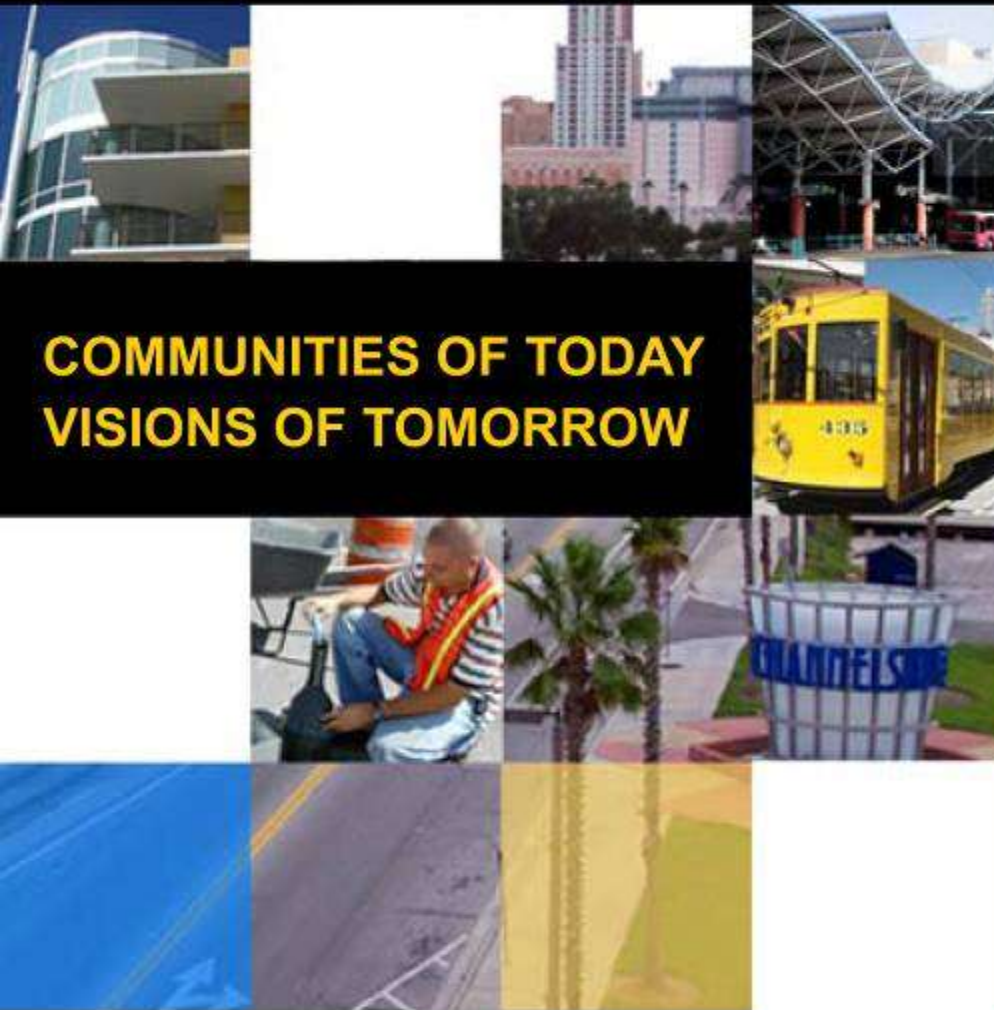


**COMMUNITIES OF TODAY
VISIONS OF TOMORROW**

Transportation Visions of Tomorrow

Florida Redevelopment Association's Annual Conference
October 28-30, 2009 • Orlando Hilton I Drive



**COMMUNITIES OF TODAY
VISIONS OF TOMORROW**

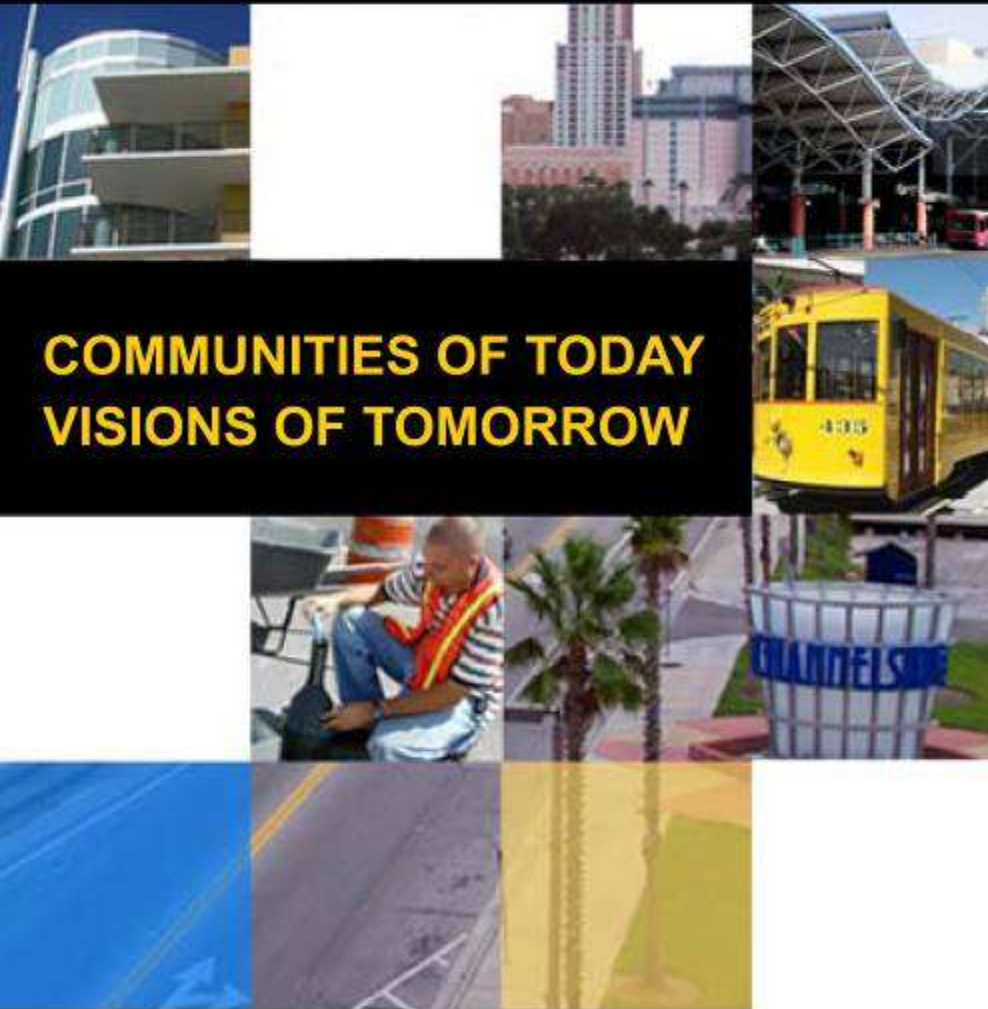
**Why are we doing
this presentation?**

**Megatrends
Survival
Sustainability
Scale**



**COMMUNITIES OF TODAY
VISIONS OF TOMORROW**

- The big picture
- The local picture
- The human picture
- All one picture



**COMMUNITIES OF TODAY
VISIONS OF TOMORROW**

**Part 1 –
Cassandra Ecker, AICP
Sr. Transportation Planner
*Jacobs***

A Connected Region for Our Future

**Tampa Bay Area Regional Transportation Authority Regional
Transportation Master Plan**

Our Community Need

- **In the past 3 decades...**

- Population has doubled
- Employment has tripled
- Nearly 50 percent of our developable land has been built out
- **Delay in our commute time has more than doubled**

- **By 2050...**

- Traffic congestion is expected to triple
- **Our transportation system is the foundation for our desired quality of life.**



“Plan for the future because that’s where you are going to spend the rest of your life.” – Mark Twain

It's Our Turn



Denver



Charlotte



Dallas

Our region competes with other cities for economic growth and jobs.

Transportation was named the #1 issue affecting the region's economic competitiveness, in surveys conducted by the not-for-profit Tampa Bay Partnership.

A Regional Approach

- **Seamless Travel**
- **Leverage for Federal and State Dollars**
 - Planning our transportation system on a **regional level** and speaking with **one voice** will increase our chances for securing funding.
- **Competitive Advantage**
 - Our region's ability to maintain and expand economic competitiveness is affected by the **quality of our transportation connections.**
- **TBARTA – A Regional Approach**



What is TBARTA?

- *Created by state legislation on July 1st, 2007*
- *Capabilities: plan, develop, finance, construct, own, purchase, operate, maintain, relocate, equip, repair, and manage multimodal transportation systems*
- *Purpose: Improve mobility and expand multimodal transportation options for passengers and freight throughout the seven-county region.*



TBARTA

Tampa Bay Area Regional Transportation Authority

TBARTA Partners

- TBARTA Counties
- TBARTA Cities
- Metropolitan Planning Organizations
- Transit Management Committee
- Citizens Advisory Committee
- Land Use Working Group



Creating the Master Plan

- **Questions we explored in developing the Master Plan:**
 - Where are you going to and from?
 - Which routes make the best connections for regional travel?
 - What is the best type of transportation improvement?
 - How do we ensure consistency and help advance local efforts?
 - *For example:*
 - Hillsborough Rail Plan
 - Sarasota Bus Rapid Transit



A Balanced, Multimodal System

Technologies Included in Regional Networks



Short-Distance Bus



Long-Distance Bus



Managed Lanes



Short-Distance Rail



Long-Distance Rail

What is Short-Distance Bus?

- **What is it?**
 - Frequent service with a limited number of stops
 - Can travel in mixed traffic or in lanes dedicated to transit use only
- **What are some examples?**
 - Limited Stop Service
 - Bus Rapid Transit (BRT)
- **How far apart are the stations?**
 - 2 to 4 blocks in urban areas
 - 1/2 mile to 3 miles in suburban
- **How often does a vehicle come?**
 - Peak time ~ every 10 to 20 minutes
 - Non-peak time ~ 30 to 60 minutes
- **What is the average speed with stops?**
 - 15 to 20 MPH



What is Long-Distance Bus?

- **What is it?**
 - Peak-hour focused service with very limited stops
 - Can travel in mixed traffic or in lanes dedicated to transit use only
- **What are some examples?**
 - Express Bus
- **How far apart are the stations?**
 - Varies (can be as much as 5 to 20 miles between stations)
- **How often does a vehicle come?**
 - Peak time ~ every 20 to 60 minutes
 - Non-peak time ~ 30 to 60 minutes
- **What is the average speed with stops?**
 - 25 to 45 MPH



What is Managed Lanes?

- **What is it?**
 - Special lanes on highways & roadways
 - For use by transit vehicles or carpools
 - Also for use with tolls for other vehicles
- **What are some examples?**
 - High-Occupancy Vehicle (HOV) Lanes
 - High-Occupancy Tolls (HOT) Lanes
- **What is the average speed?**
 - 60-65 MPH



What is Short-Distance Rail?

- **What is it?**
 - Frequent service
 - Multiple stops
 - Customarily located in urban areas
 - Vehicles can operate in mixed traffic or separate right-of-way
- **What are some examples?**
 - Light Rail
 - Heavy Rail
 - Streetcar or Trolley
 - Monorail
 - Automated Guideway
- **How far apart are the stations?**
 - ½ mile to 1 mile apart
- **How often does a vehicle come?**
 - Peak times ~ every 10 minutes or less
 - Non-peak ~ 15 to 30 minutes
- **What is the average speed with stops?**
 - 15 to 25 MPH



What is Long-Distance Rail?

- **What is it?**
 - Rail service with fewer stops
 - Intended for peak hour-focused commuter travel
- **What are some examples?**
 - Traditional Locomotive
 - Diesel Multiple Unit
 - Electrical Multiple Unit
- **How far apart are the stations?**
 - 5 to 10 miles apart
- **How often does a vehicle come?**
 - Peak times ~ every 20 minutes
 - Non-peak ~ every 60 minutes
- **What is the average speed with stops?**
 - 30 MPH



Transportation-Land Use Connection

Transportation systems and land use patterns influence each other.

A dispersed pattern of low-density development relies almost exclusively on cars as the primary mode for transportation.



Alternatively, denser urban centers can combine different land uses in closer proximity, to:

- encourage walking, biking, and transit
- provide choices
- make a transit system viable.

Transportation and Land Use: Our Future

What did we consider when looking at regional needs?

- Employment Centers
- Population Centers
- Tourist Attractions
- Airports
- Regional Shopping
- Colleges/Universities
- Culture/Entertainment
- Major New Development
- Areas Incentivized for Redevelopment by State & Local Governments



- “Very Intense Cluster of Destinations”
- “Intense Cluster of Destinations”
- “Cluster of Destinations”

Land Use Working Group: Formation/Participants

- Regional Planning Councils were contacted:
 - Central Florida RPC (Polk)
 - Tampa Bay RPC (Hillsborough, Manatee, Pasco, Pinellas)
 - Southwest Florida RPC (Sarasota)
 - Withlacoochee RPC (Citrus, Hernando)
- Regional Planning Councils invited their County & Cities:
 - Planning, Current & Long Range
 - Transportation Planning
 - Economic Development
 - Economic Development Councils
 - Others on their distribution lists
- MPOs/TRT committee members, including Polk TPO
- 1000 Friends of Florida
- Sustainable Florida
- Nature Conservancy
- Sierra Club
- The Urban Charrette (AIA)
- SWFWMD
- Public School Districts-Facilities
- Colleges & Universities-Presidents
- Multifamily, Commercial, Industrial & Office Properties Associations
- Tampa Bay Estuary Program
- Urban Land Institute
- Home Builders of Tampa Bay
- Realtors
- Planning Consultants
- Developers

Land Use Working Group: Topics & Discussions

May-July 2008

- Growth Forecasts
- Regional Anchors
- One Bay Coordination

August-November 2008

- Transit Oriented Development (TOD) Scenarios
- Developer Panel on TOD

February 2009

- Citizen Panel on the Transportation-Land Use Connection
- FTA New Starts Land Use Criteria
- Relationship between TBARTA & Land Use Planning Agencies

May 2009

- National TOD Success Stories – Charlotte & Denver

July-October 2009

- TOD Toolbox/Resource Guide



Transit Oriented Development (TOD)

Compact, mixed use development

- Near new or existing public transportation infrastructure
- Serves housing, transportation, and neighborhood goals



Pedestrian-oriented design

- Encourages residents and workers to drive their cars less and ride transit more

TBARTA Public Engagement Summary

**January 2008
through
October 2009**

- **549+ TBARTA Events**
 - Speakers Bureau Presentations
 - Community & Online Workshops
 - iTownHall Meetings
 - Special Events and Displays
- **51,000+ Total Attendees**
- **590+ Total TBARTA Related Articles Published**
- **55,796+ Total TBARTA Web Site Visits** (~ 78 visits per day)
- **Follow TBARTA on Twitter**
<http://twitter.com/TBARTA>
- **Become a Fan on Facebook**
<http://www.facebook.com>



Long-Term Network

- 135 miles Short-distance rail
- 115 miles of Long-Distance Rail
- 42 miles of BRT in Mixed Traffic
- 220 miles of Managed Lanes with Express Bus
- 217 miles of other Express Bus

Long-Term Regional Network



Mid-Term Network

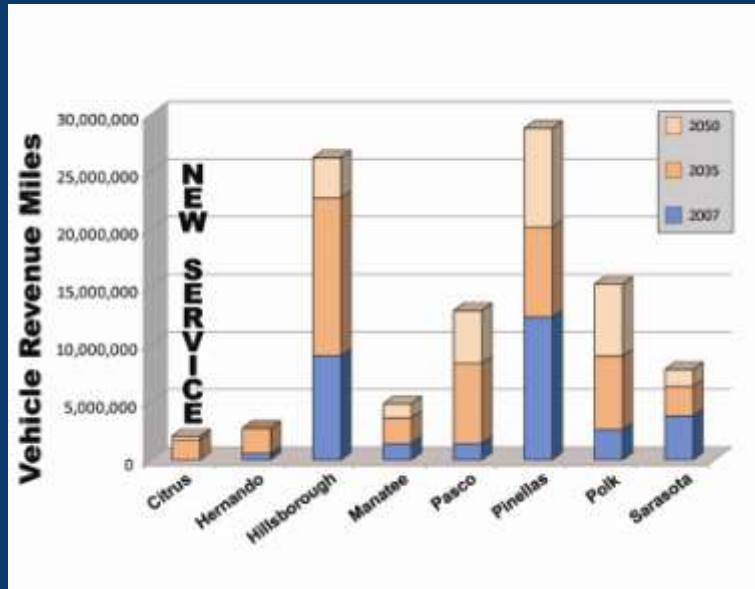
- 116 miles Short-distance rail
- 12 miles of BRT in Exclusive Lanes
- 42 miles of BRT in Mixed Traffic
- 159 miles of Managed Lanes with Express Bus
- 226 miles of other Express Bus

Mid-Term Regional Network

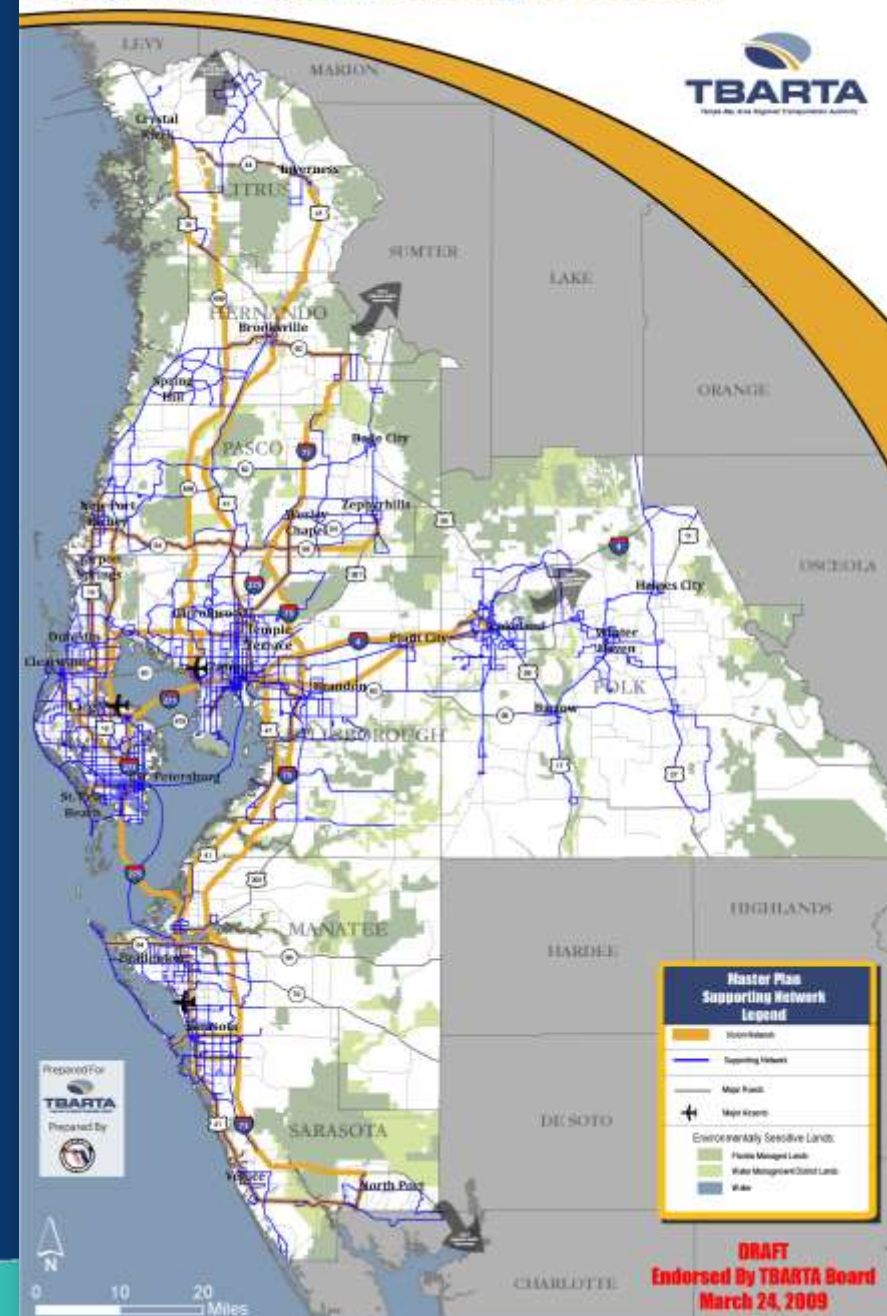


Supporting Network

Magnitude of Service Expansion over 2077 Service



Long-Term Supporting Network



Investment in Our Future

- Cost of improving our infrastructure is high; what is the cost of *not* improving it?
- Projects will be prioritized and implemented over time



“The critical responsibility for the generation you’re in is to help provide for those generations who come behind.” – Gloria Dean Randle Scott, First African American President of the Girl Scouts

Real Dividends of Transportation Infrastructure

- **Quality of Life**

- Improve mobility
- Allow more free time
- Save money
- Provide choices



Real Dividends of Transportation Infrastructure

- **Boost to Economy**
 - Each dollar invested returns \$5.84 to our economy, of which \$4.79 stays in our region.
- **Creating Jobs**
 - Create an annual average of nearly 21,000 quality full-time jobs over the 40 years regionwide.



Real Dividends of Transportation Infrastructure

- **Environmental Benefits**

- Reduce greenhouse gas emissions

- **Economic Development**

- Transit can be a tool to influence our region's growth patterns
 - Transit Oriented Development
 - Redevelopment
 - Minimize cost of providing utilities and other services



Transportation's Impact on the Economy

- **Charlotte has competed with Atlanta (a metropolis 3x its size) and won major employers such as GMAC Financial Services, in part because of its investment in light rail.**
- **In Dallas, transit has led to \$3.7 billion in economic activity and created 32,000 new jobs.**
- **For every \$1 invested in public transportation, \$6 is generated in economic returns.**



Thank You!

- **Website: www.TBARTA.com**
- **Info Line**
813-217-4048 or 1-888-684-9461 (toll free)

- **Meeting Schedule:**

Board – December 11, 9:30am

*Florida Department of Transportation
11201 N. McKinley Drive
Tampa, FL 33612*

TMC – November 18, 10:00am

*Pinellas Suncoast Transit Authority (PSTA)
3201 Scherer Drive
St. Petersburg, FL*

CAC – November 18, 1:30pm

*USF Connect Building
3802 Spectrum Blvd.
Tampa, FL 33612*

The screenshot shows the TBARTA website homepage. At the top is the TBARTA logo and a navigation menu with links for About, Meetings, Public Engagement, Master Plan, Contact, Transportation Facts, and Partners. Below the navigation is a 'HOME' section with a 'MASTER PLAN' link. A featured article titled 'TBARTA Receives Accolades from the State' includes a quote from Governor Charlie Crist. Another article, 'TBARTA Adopts Regional Transportation Master Plan', thanks partners and mentions the adoption date of May 22, 2009. A 'LATEST MASTER PLAN MAPS' section features a map with the text 'ADOPTED MAY 22, 2009'. A 'LATEST TBARTA NEWS' section lists media alerts and news items. At the bottom, there are social media links for Twitter and Facebook, and a YouTube logo.



**COMMUNITIES OF TODAY
VISIONS OF TOMORROW**

**Part 2 –
Michael English, AICP
Vice President
*WilsonMiller, Inc.***



Streetcar Systems as Urban Circulators

Michael English, AICP

Vice President, WilsonMiller, Inc.

Vice President, Tampa Historic Streetcar, Inc.

Tampa, FL



Tampa's Streetcar Development 1984 - 2009



- Streetcar Society
- HART initiative
- MPO funding
- Mayoral Funding Commitment
- Community Support



The Urban Center of the Regional Center





TECOLine Streetcar System Ybor City to the Channel District to Downtown



- 2.5 miles of track
- Extension underway
- Soon to be 2.875 m.
- 11 streetcars
- 7 day per week service
- \$2.3 million operating budget
- Opened 2002
- Birney replica cars

Linking Urban Districts

Ybor City-Channel District-Downtown



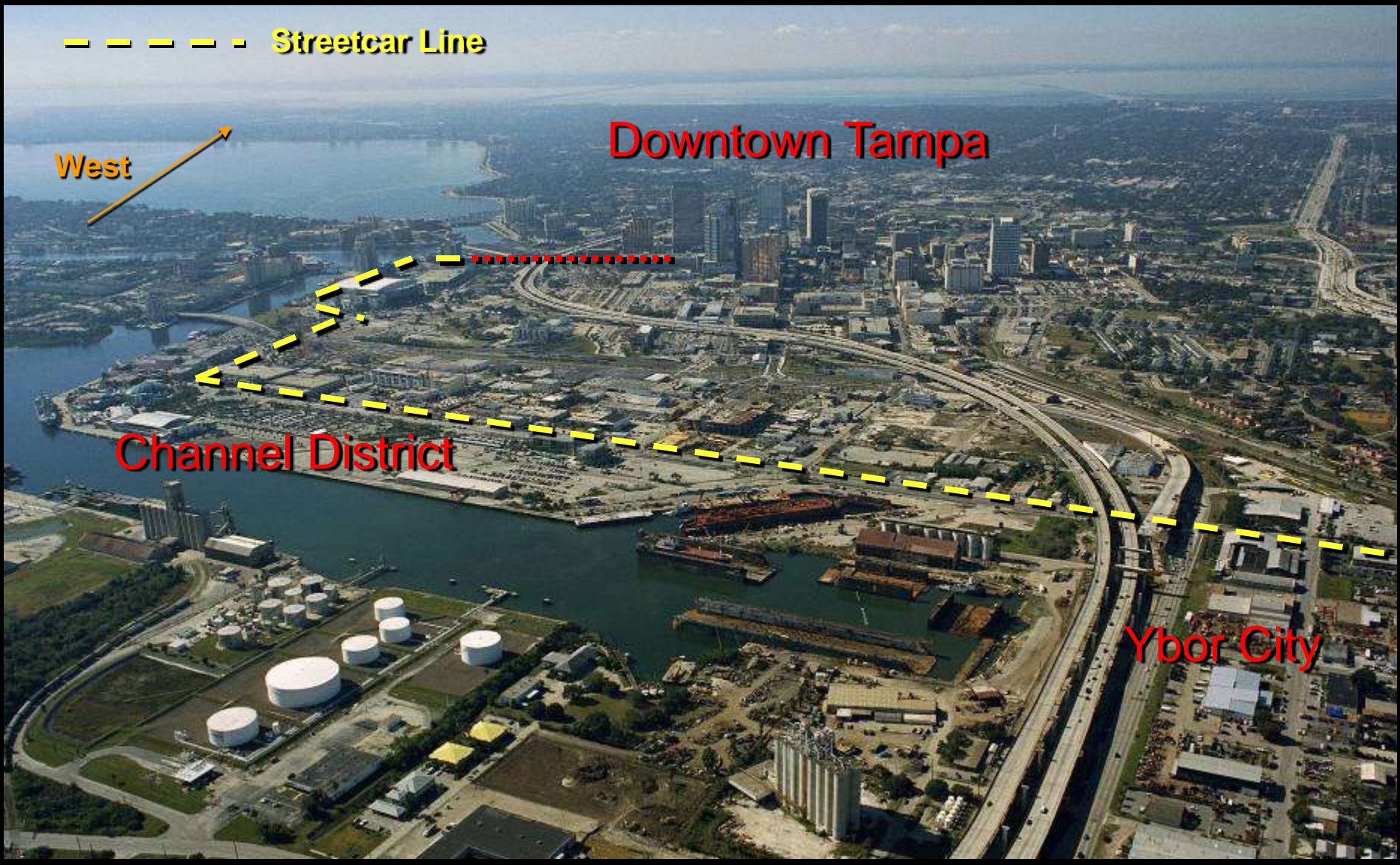
Connects the three major urban core neighborhoods:

- Ybor City
- Channel District
- Downtown Tampa

And multiple attractions and multiple CRAs



Linking Urban Districts Ybor City-Channel District-Downtown



--- Streetcar Line

West

Downtown Tampa

Channel District

Ybor City



Linking Urban Districts

Ybor City - Channel District - Downtown

Centro Ybor

- Retail/entertainment/office complex in Ybor City Historic District



The Shoppes at Channelside

Retail – entertainment complex, cruise ship port south end of downtown





Downtown Tampa

Nearly 60,000 employees, reinventing residential and retail, contains five museums (3 new), the St. Pete Times Forum, a new Riverwalk, five new parks and multiple other local attractors.



Design Awards Tampa Streetcar System

The streetcar system has been context sensitive in the design of its:

- Facilities
- Respecting Scale
- Tradition
- And Other Modes of Transportation



The streetcar Car Barn and Maintenance Facility in Ybor City was a 2003 Community Design Award Winner for its contextual Ybor City design, and is a state of the art facility.

It is also houses HART's administrative offices.

Recognized for outstanding design of an industrial building in an historic district.





Southern Transportation Plaza, currently the downtown end of the line, was a 2004 Planning Commission Community Design Award winner.



Governance Tampa Streetcar System

- THS is a Not-for-Profit Board, separate from HART or City
- Currently 6 City Appointees, 3 HART Appointees
- Purpose - to manage, operate & maintain streetcar system, and provide operating funding and budget
- HART under contract to THS for operations
- Capital equipment owned by City or HART



Controlling Documents

Tampa Streetcar System

Agreements

- 1998 Interlocal Agreement between City and HART
- 1998 THS Articles of Incorporation & By-Laws
- 2001 Tri-Party Agreement between City, HART and THS
- 2007 Interlocal Agreement for Extension



1998 Interlocal Agreement Tampa Streetcar System

- Agreement to Build & Run the System
- Using Fed & State Grants plus City Funds to Construct
- Operations to be (uniquely) Funded by:
 - Farebox
 - Advertising/Naming Rights Revenue
 - Special Assessment District
 - Endowment Fund
- City or HART may adjust service to bring into line with available funding
- City must make up any shortfall

Ridership Meeting Projections Tampa Streetcar System



- 440,000 riders in 2007
- 442,000 riders in 2008
- 464,000 riders in 2009





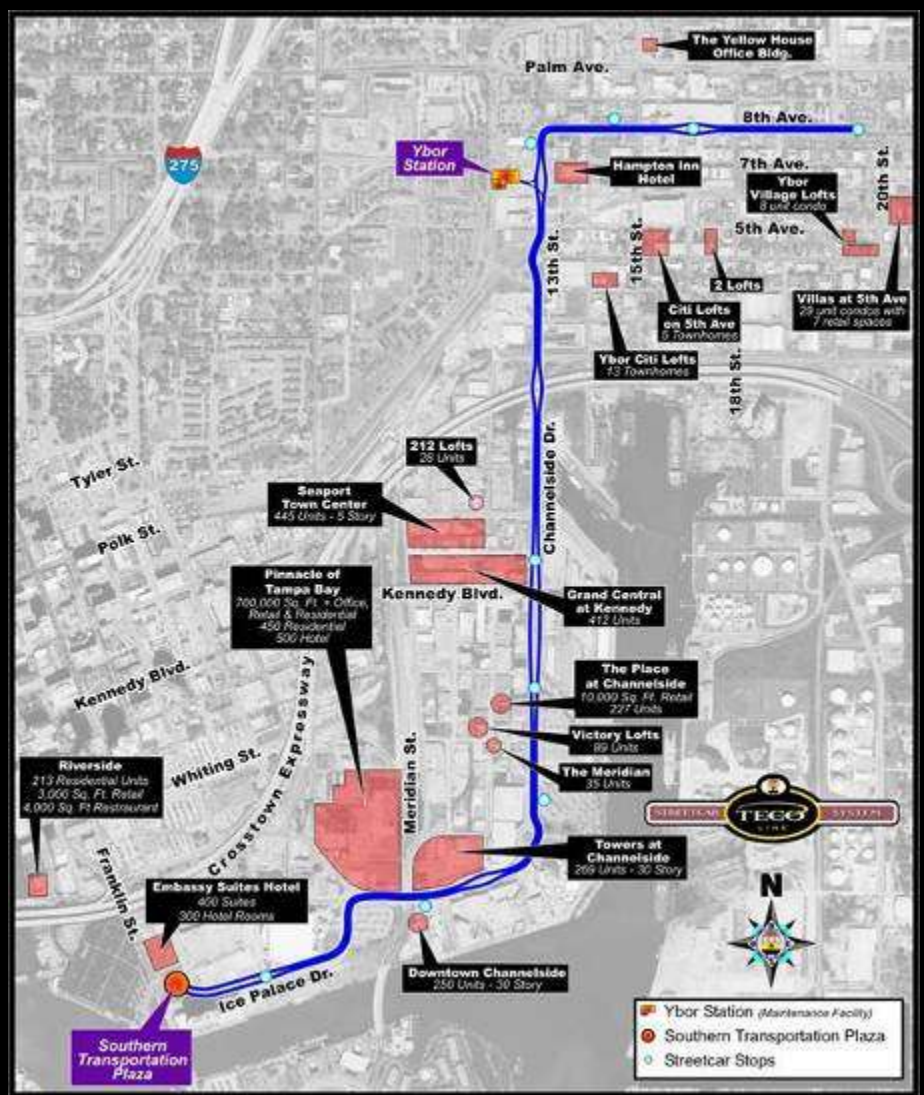
Results 2002-2009 Tampa Streetcar System

Nearly \$1.5 billion in public and private investment along alignment.

- 1,200 riders per day
- 2,500+ new housing units (new phenomena)
- Integral to City's image (iconic)
- Integral to Port's cruise industry image
- Invaluable to Special Events, conferences
- Appears in all city/visitors promotional literature



Economic Development Streetcar Corridor



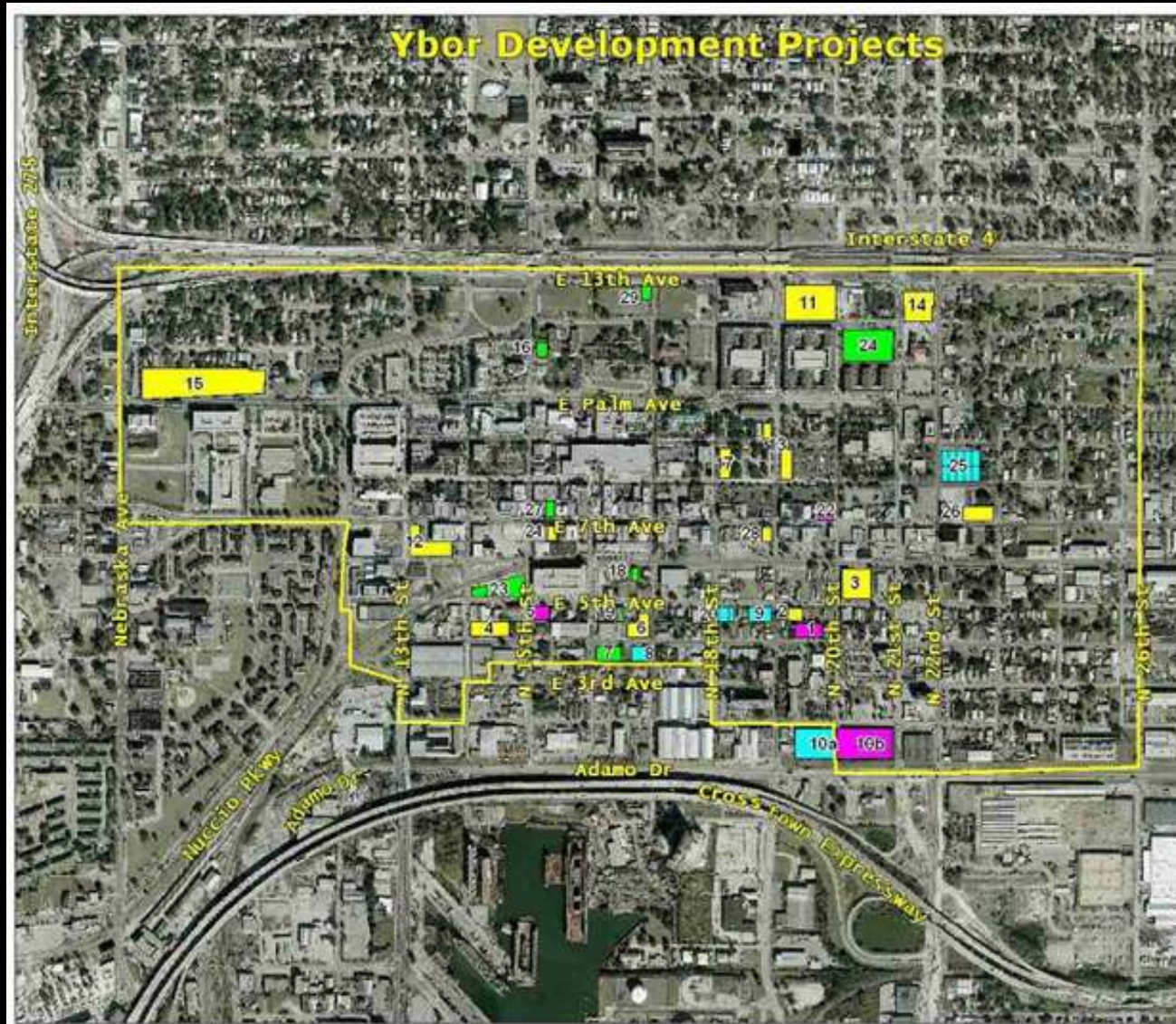
- T.O.D. begins!
- New private developments are attracted to the proximity of the 2.5 mile TECO Line Streetcar System
- New housing and mixed use predominates in transitioning our urban setting into the future



Representative New Development Streetcar Corridor

- Hampton Inn Hotel at Ybor City (Historic District hotel located facing the streetcar car barn)
- Grand Central at Kennedy (412 units, mixed-use)
- The Place at Channelside (227 units, retail/dedicated art studios)
- Towers at Channelside (269 units, 30 story twin towers, mixed-use)
- Downtown Channelside (250 units, 30 story, retail)
- Victory Lofts (89 units)
- Seaboard Square (387 units, mixed use)
- Seaport Village (680 units, rental apts)
- Ventana (84 units, 11 story, retail)
- Cobalt (280 units, 8 story)
- Meridian (37 units, 6 story)
- Lafayette Lofts (30 units, 6 story)
- Embassy Suites Hotel (400 suites, 300 rooms)

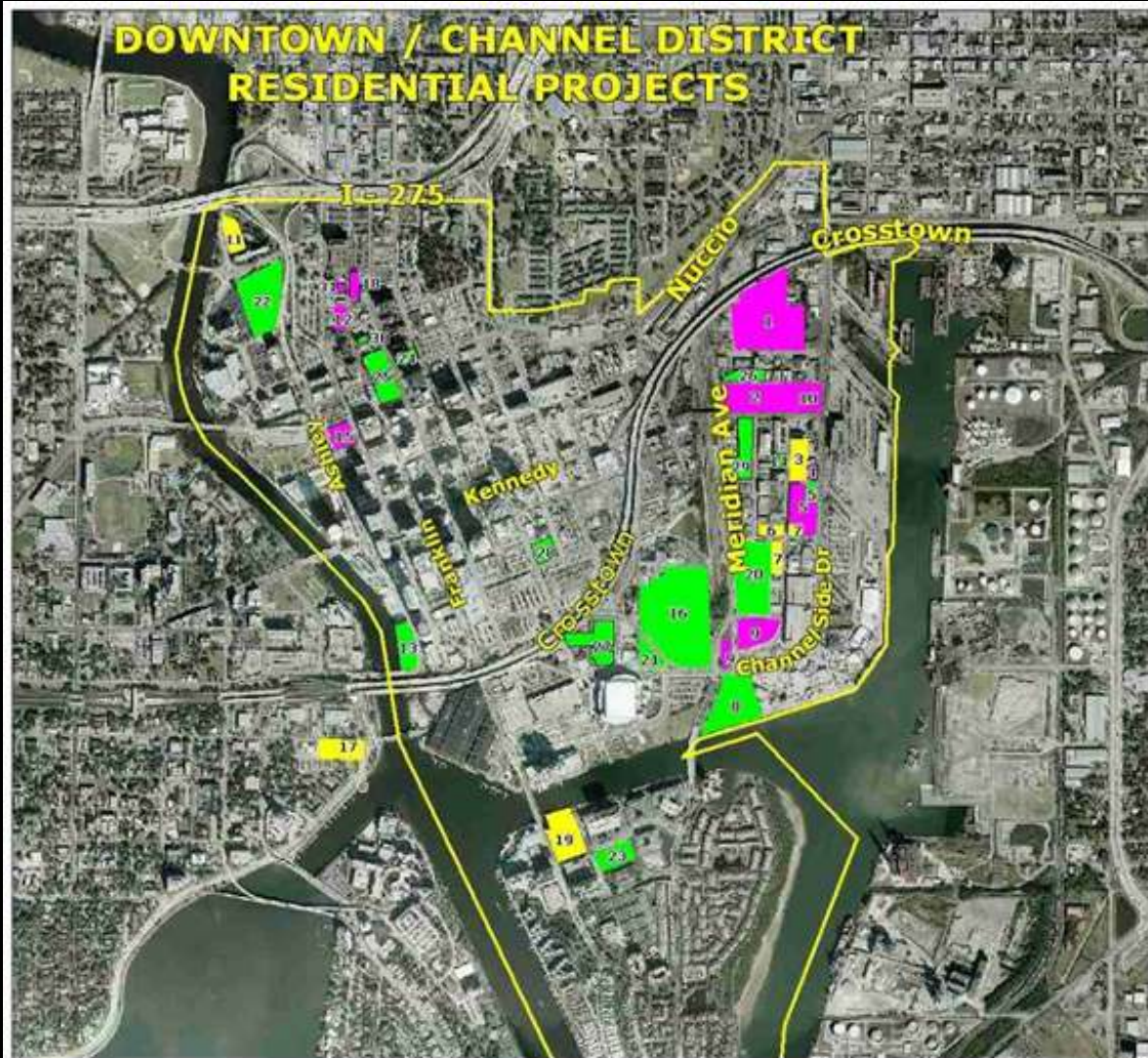
Ybor Development Projects Streetcar Corridor



- 01. Ybor Village Lofts
8 condo units
- 02. Ybor Village Lofts II
12 condo units
- 03. Villas at 5th Avenue
29 condo units
7 retail spaces
- 04. Ybor Citi Lofts
13 townhomes
- 05. CitiLofts
5 townhomes
- 06. Residential Infill
7+ condo units
- 07. 11 - 13 townhomes
- 08. Las Ybor City Homes
12 condo units w/retail
- 09. Casitas Homes
6 detached homes
- 10a. Offices
- 10b. Residential lofts
49 units
- 11. Ybor Post Office
- 12. Ybor Hampton Inn
- 13. Las Casitas
- 14. McDonald's
- 15. The Children's Board
- 16. The Yellow House office
- 17. Ybor Arts Center
- 18. Three Townhomes
- 19. Fourteen Townhomes
- 20. Commercial Retail Project
- 21. Lotus Ultra Lounge
- 22. Taverna Opa Restaurant
- 23. Heidt & Assoc. Offices
- 24. Wilson Miller Offices
- 25. The Village at Ybor
30 condos
- 26. Retail/office rehab
- 27. Office renovation 2nd floor
- 28. Office renovation 20 suites
2nd floor
- 29. Historic Marker

- Completed
- Under Construction
- Entitled (in BLC process)
- Planned

Downtown / Channel District Residential Projects



Developed by
City of Tampa
Urban Development
Department
813-274-8091
DATE 10/25/05

1. Seaport Channelside
5 story 416 Apartments
800-2000 sq ft rental \$1.30/sq foot
2. Grand Central @ Kennedy
14 story, 392 condos
600-2100 sq ft \$142k-\$550k
3. Channelside 212 lofts
2 Story 20 loft/town
1100-2500 sq ft \$155k - \$305k
4. 1000 Channelside
4 story 10 condos
1500-2600 sq ft \$300k+
5. The Place @ Channelside
Phase 1 - 8 Story 244 condos
Phase 2 - 32 Story 196 condos
600-3700 sq ft \$189k-1 mil+
6. The Meridian
6 story 37 left/condos
885-1900 sq ft \$223-\$514k
7. Victory Lofts 2 bldgs
48.7 story, 89 condos
800-3500 sq ft \$180-\$850k
8. Downtown Channelside 2 bldgs
30 story, 250 condos
1700-2400 sq ft \$300k-\$500k
9. The Towers @ Channelside 2 bldgs
29 story, 257 condos
1130-4852 sq ft \$290k-\$2.4 mil
10. Ventana 2 bldgs
11 story, 84 condos
1100-2600 sq ft 400k - \$1mil
11. Arts Center Lofts
5 story, 42 condos
742-1483 sq ft \$145,926-\$290,000
12. Residence of Franklin St.
8 story, 40 lofts,
1034-2375 sq ft \$230k-\$550k
13. Trump Tower Tampa
52 story, 190 condos
1951-6150 sq ft \$750k-\$5 million
14. Lafayette Lofts
6 story, 30 lofts
1000-1600sq ft \$300-\$500k
15. Skypoint
32 Story 400 condos
725-1400 sq ft \$170k - \$330k +
16. 02 at Pinnacle Place 2 bldgs
40 story 400 condos
900-6000 sq ft \$190k-\$2.5 mil
17. Parkside @ One Bay Shore
17 story, 103 condos
1120-3700sq ft \$269k-\$1.4mil
18. The Arlington
2 story, 11 condos
660-1600 sq ft \$147k-\$325k
19. Park Crest
9 story, 336 condos
929-2122sq ft \$169k-\$809k
20. Seaboard Square 4 bldgs
6 story, 370 condos
800-3000 sq ft \$250k-\$800k
21. The Plaza @ Channelside
30 Story 251 condos
1100-7600sq ft \$310k-\$4.6 mil
22. Denholtz/Gateway 3bldgs
16,25,40 story, 600 condos
1100-5000sq ft \$250k - 2mil
23. The Plaza at Harbour Island
20 Story, 143 Condos
1100-4300 sq ft 500k-3 mil
24. Floridian Hotel Redevelopment
220 Rooms, 20% Condo
25. Kress Redevelopment, 3 bldgs
Bldg 1 44 Story, 574 Condos
Bldg 2 27 Story, 296 Condos
Bldg 3 24 Story, 105 Condos
600+ sq ft \$150 - \$350k
26. The Martin
22 story, 370 condos
600-1208sq ft \$150k - 450k
27. Crescent Heights
27 story, 819 condos
750-1500sq ft \$195k - 850k
28. Seasons Residence
51 story, 410 condos
910-4000sq ft \$250k - 2mil
29. Cobalt Project
8 story, 280 condos
Unknown sq ft \$Unknown
30. Carriage House
4 story, 12 condos
1,000-1,300 sq ft \$400k
31. Franklin Street City Lofts
4 story, 4 condos
2985-3277 sq ft \$800k-\$900k

	Complete	Units 635
	Under Construction	Units 1854
	Planned	Units 5528



Channel District Development Overview



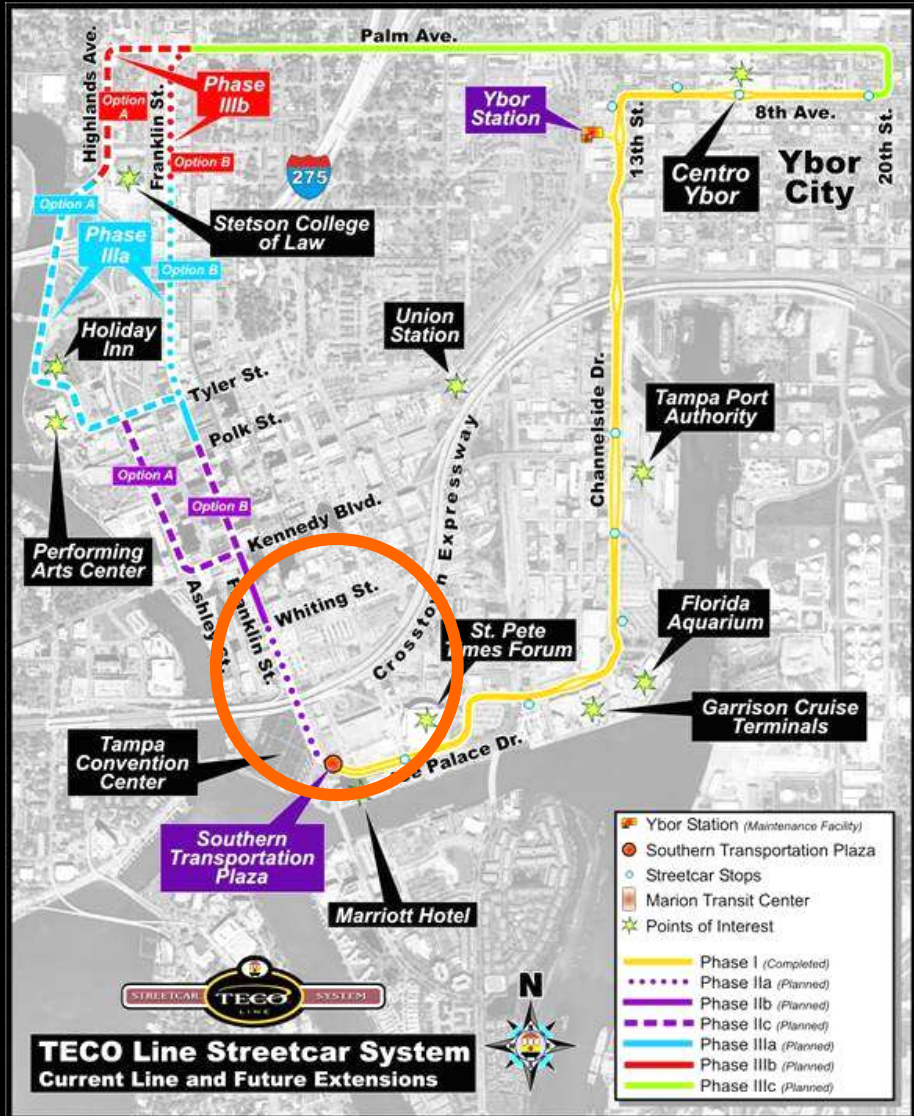
Growth in Vicinity Tampa Streetcar System

The Future

- Future extensions will create loop and stimulate more redevelopment
- Projected growth of residents, retail, & office uses will create new (and different) demand for streetcar service
- Mission of the streetcar system will evolve from its current mission of primarily serving visitors into a modern urban center transit system
- Will remove short trips from cars
- Demand for more service may justify modern trams, double-tracking



First Extension Tampa Streetcar System

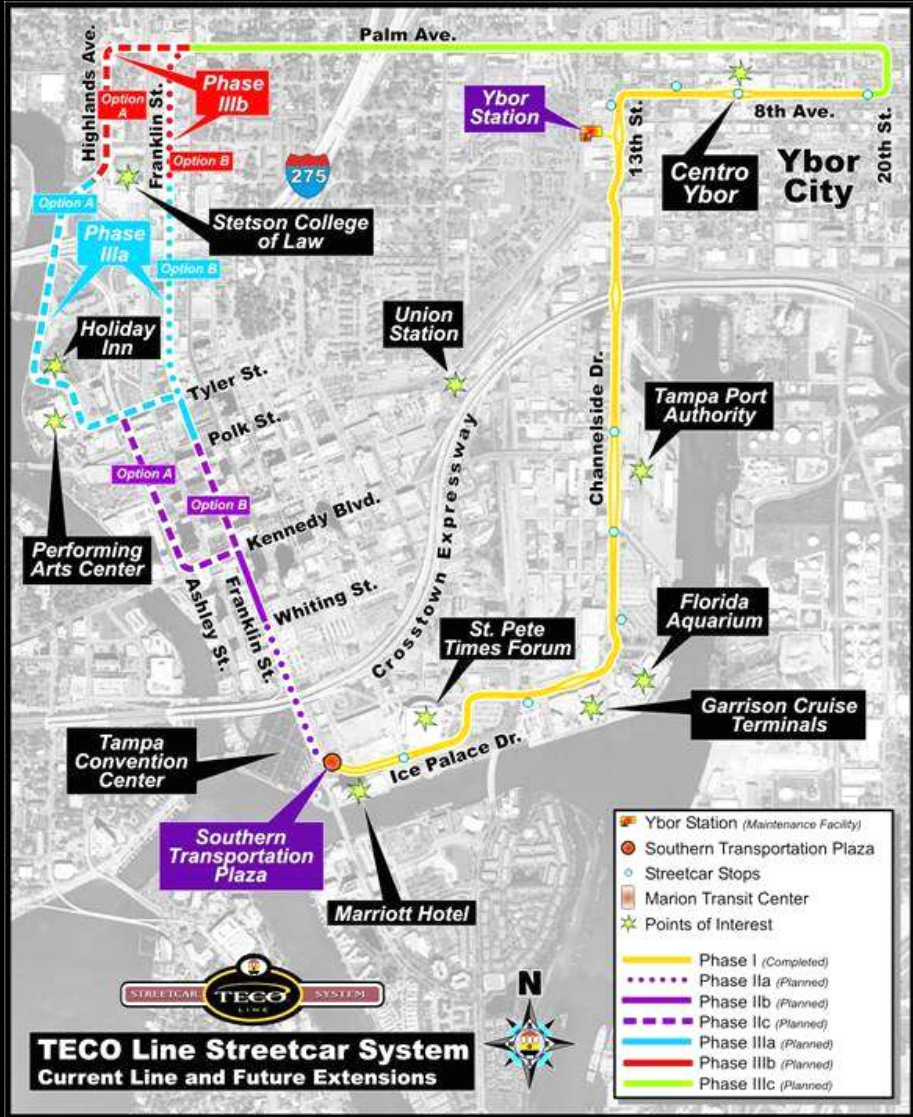


0.35 mile extension from Southern Transportation Plaza to downtown core.

- Design 2008
- Construct 2009-10
- Open 2010



Future Expansion Tampa Streetcar System



- System will encourage new development opportunities
- Future extensions will reach the north end of downtown, Tampa Heights, and connect back to Ybor City.

TECO Line Streetcar System
Current Line and Future Extensions



First Extension Tampa Streetcar System

Capital Funding Program

Funding Program	Funding Amount	Detail
Surface Transportation Program	\$1,400,000	FY 2008 funds not yet obligated in an approved grant
Federal Discretionary	\$980,000	FY 2008 discretionary funds recently approved by Congress, not yet obligated in an approved FY 2008 funding
Surface Transportation Program	\$2,000,000	originally programmed to Ybor city Streetcar Museum; not yet obligated in an approved grant
TOTAL	\$4,380,000	



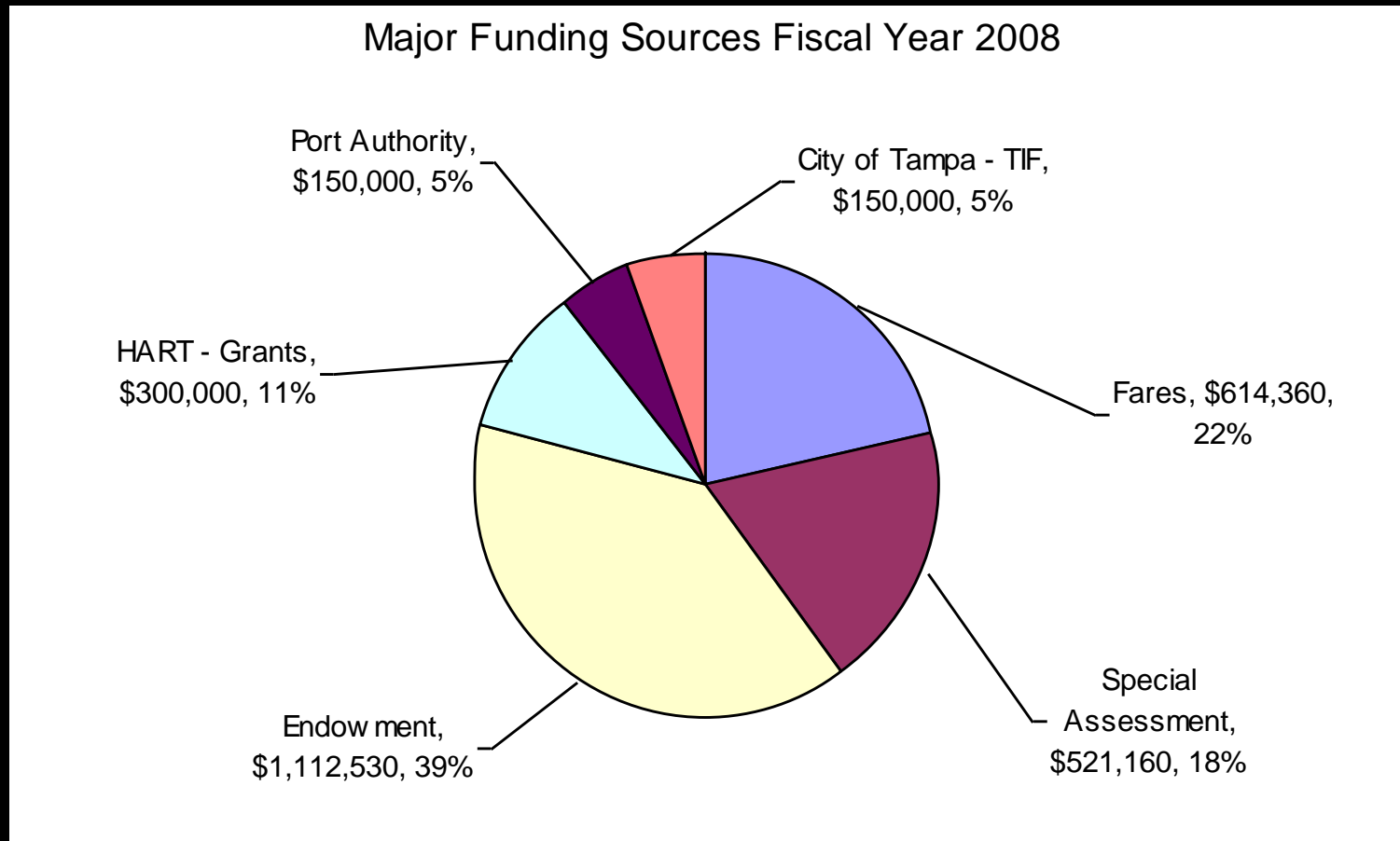
Major Funding Sources

	FY2009	FY2008
Fares	\$646,210	\$614,360
Sp. Assessments	\$600,040	\$521,160
Endowment	\$601,800	\$1,112,530
HART – Grants	\$300,000	\$300,000
Port Authority	\$150,000	\$150,000
City of Tampa-TIF	\$150,000	\$150,000



Tampa Streetcar System

Major Funding Sources – FY 2008

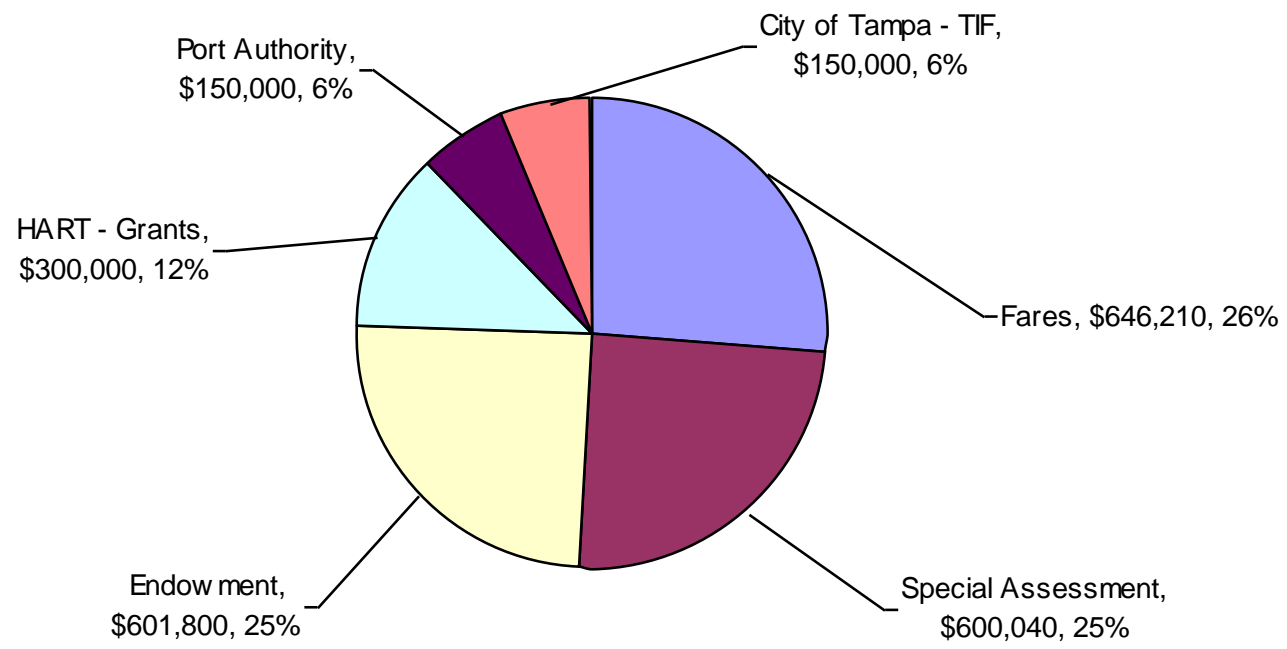




Tampa Streetcar System

Major Funding Sources – FY 2009

Major Funding Sources Fiscal Year 2009





Promise of the Future Tampa Transit



Extending the Tampa streetcar system is next step to light rail viability.

TBARTA and HART initiatives promise exciting changes for Tampa Bay area regional transit.





Promise of the Future Transit Other Cities

Cities planning new or existing system extensions:

- Albuquerque, NM
- Atlanta, GA
- Austin, TX
- Boise, ID
- Brooklyn, NY
- Cincinnati, OH
- Colorado Springs, CO
- Cripple Creek, CO
- Dayton, OH
- Detroit Belle Isle, MI
- Ft. Lauderdale, FL
- Ft. Worth, TX
- Galveston, TX
- Greeley, CO
- Indianapolis, IN
- Kenosha, WI
- Lowell, MA
- Los Angeles, CA
- Miami, FL
- Middletown, CT

Cities planning new systems or existing system extensions:

- Milwaukee, WI
- Myrtle Beach, SC
- New Orleans, LA
- Ogden, UT
- Orange County, CA
- Port of Los Angeles, CA
- Portland, OR
- Sacramento, CA
- Salt Lake, UT
- San Antonio, TX



Cities planning new systems or existing system extensions:

- Savannah, GA
- Seattle, WA
- Tacoma, WA
- Tampa, FL
- Tucson, AZ
- Wilmington, NC





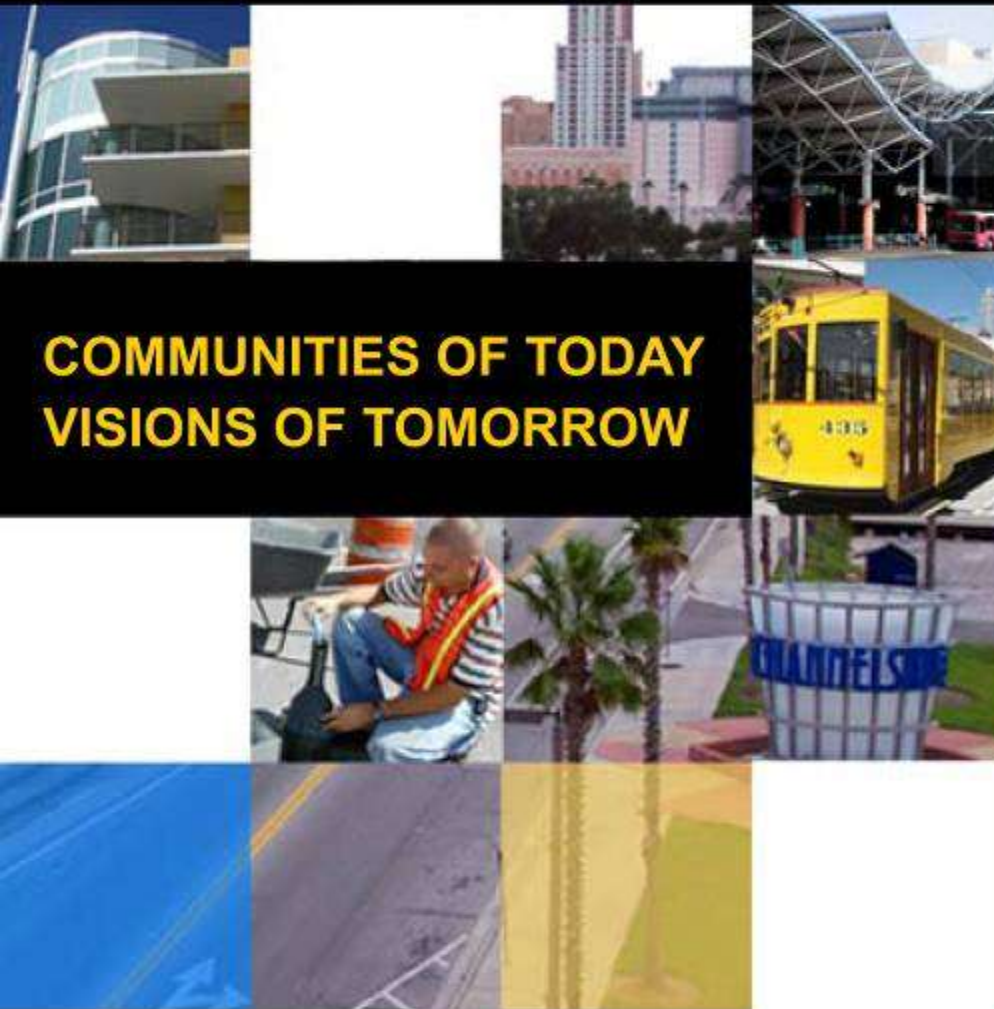
Contact Tampa Streetcar System

www.tecolinestreetcar.org

www.hartline.org

www.tbarta.com

MichaelEnglish@wilsonmiller.com



**COMMUNITIES OF TODAY
VISIONS OF TOMORROW**

Part 3 –
Angelo Rao, PE
Transportation for Livable
Communities Manager
Volkert & Associates

Florida Redevelopment Association
2009 Annual Meeting
Orlando, Florida

Transportation Visions for Tomorrow

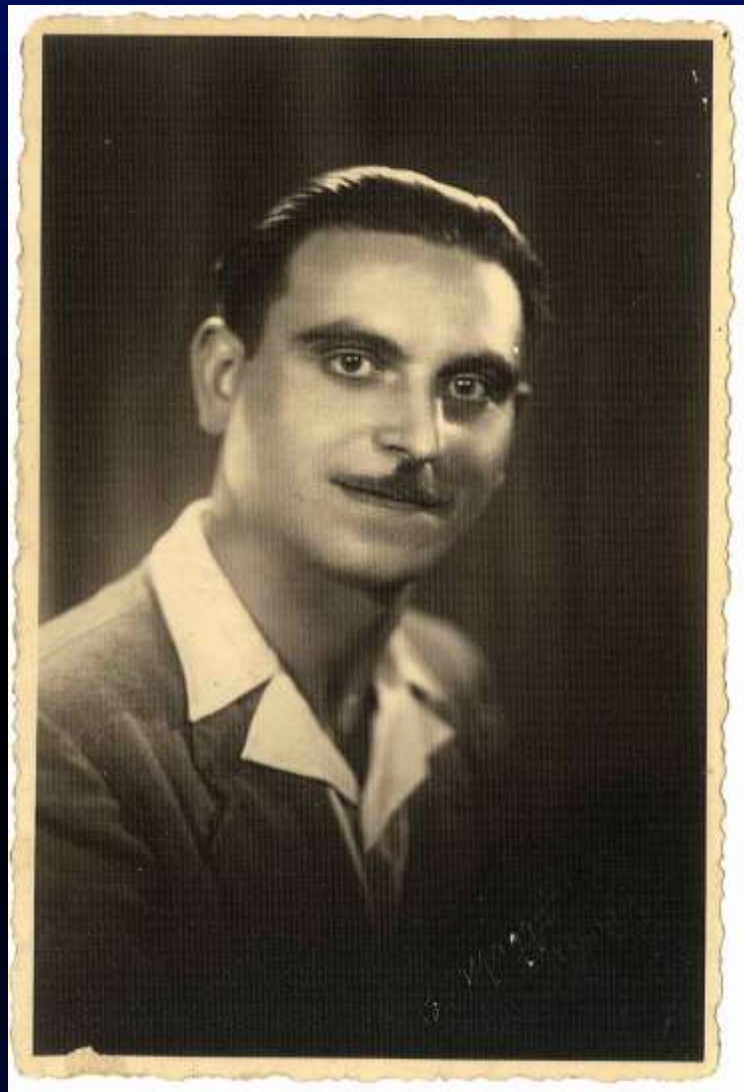
A Roadway Cross-section For *ALL USERS*
Chapter One: A Personal Story

Angelo Rao, PE



My Hero: Giuseppe Rao (1913 – 2002)

VOLKERT



Dad's Motto: "Se non poso andare al piede o con il tram, non val' andare"

VOLKERT



Dad's Motto: "If I can't walk or take the streetcar to it, it isn't worth going to"

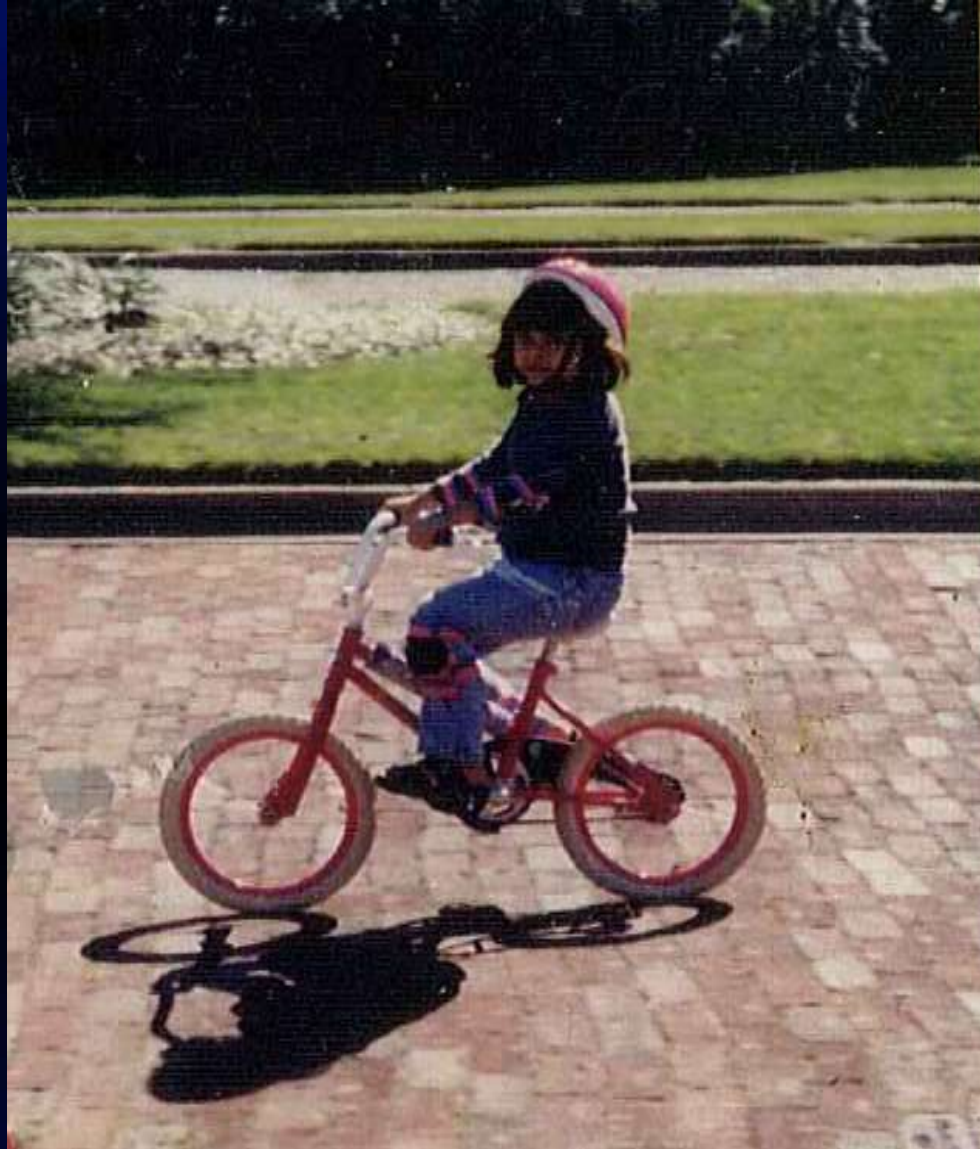
VOLKERT

Angelo

**Come In and Try on
A Pair of Shoes**



VOLKERT



Balance

VOLKERT

It's Always About R/W!!

VOLKERT

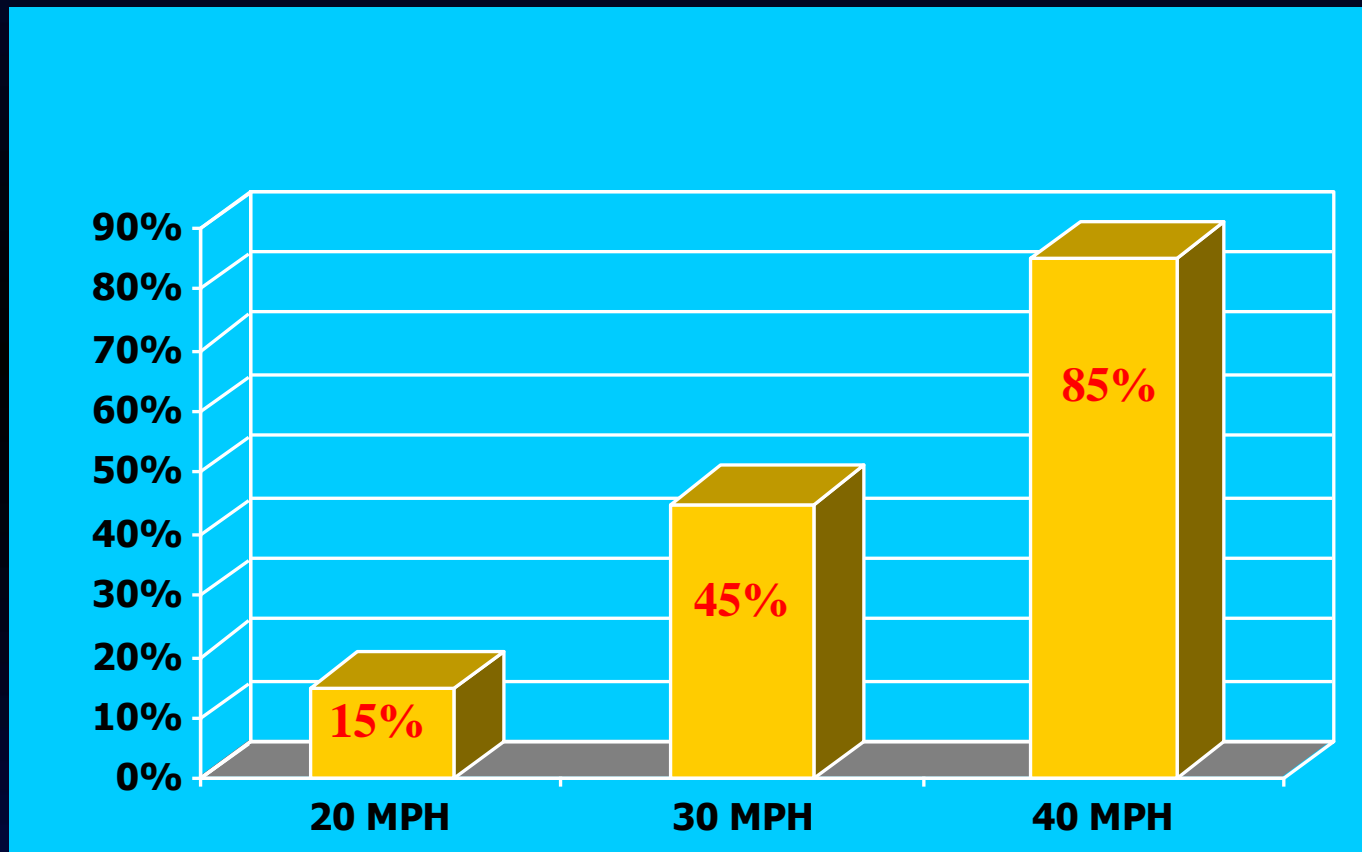


VOLKERT



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Probability of Pedestrian Fatality with Increasing *SPEED*



A City of 3,000,000 Mourns The Loss of One



VOLKERT

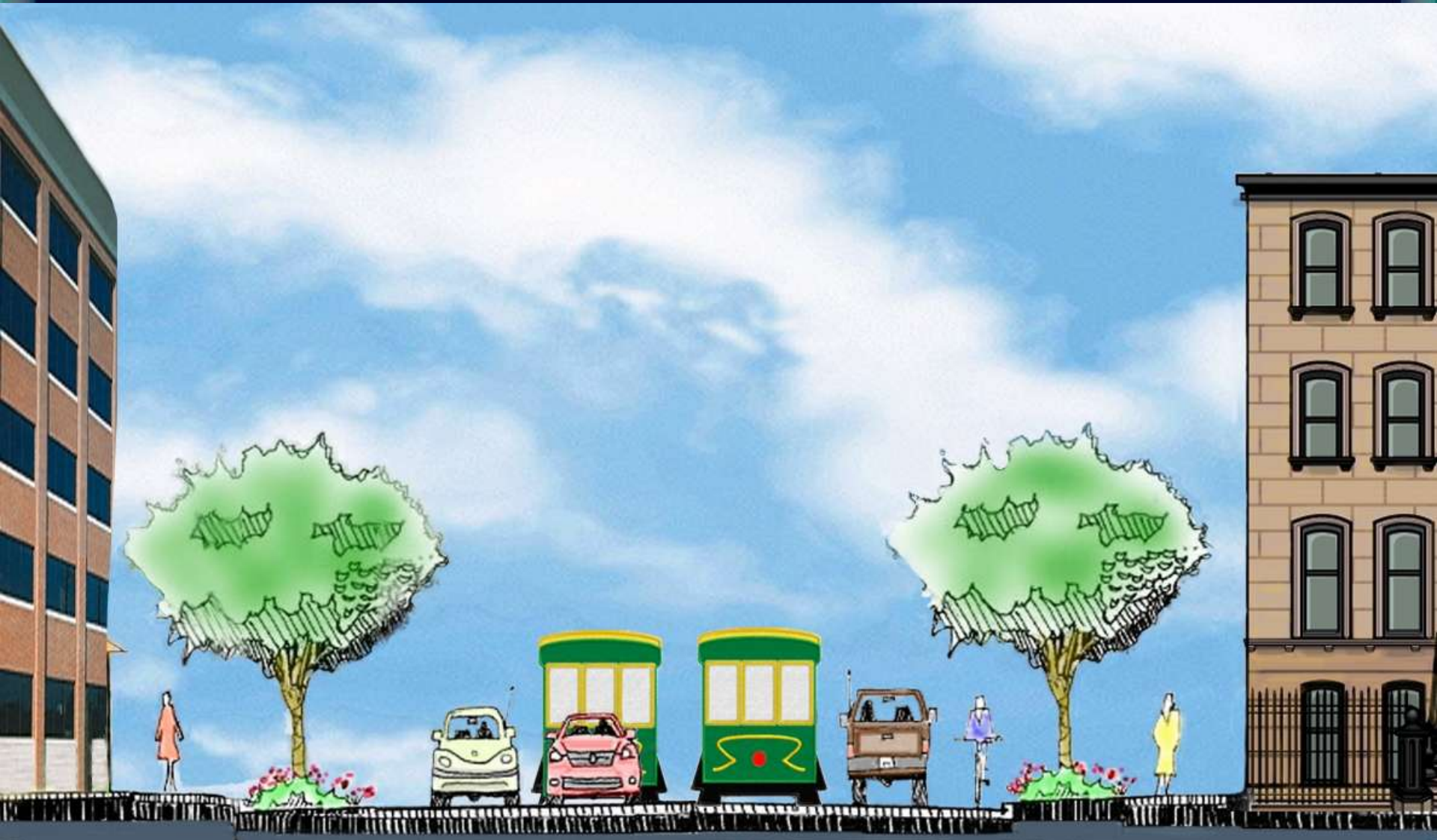


**Typical Operating
Speeds On Many
Major Arterials:
35 – 40 MPH**

Can We Squeeze in Transit Along with Everything Else?

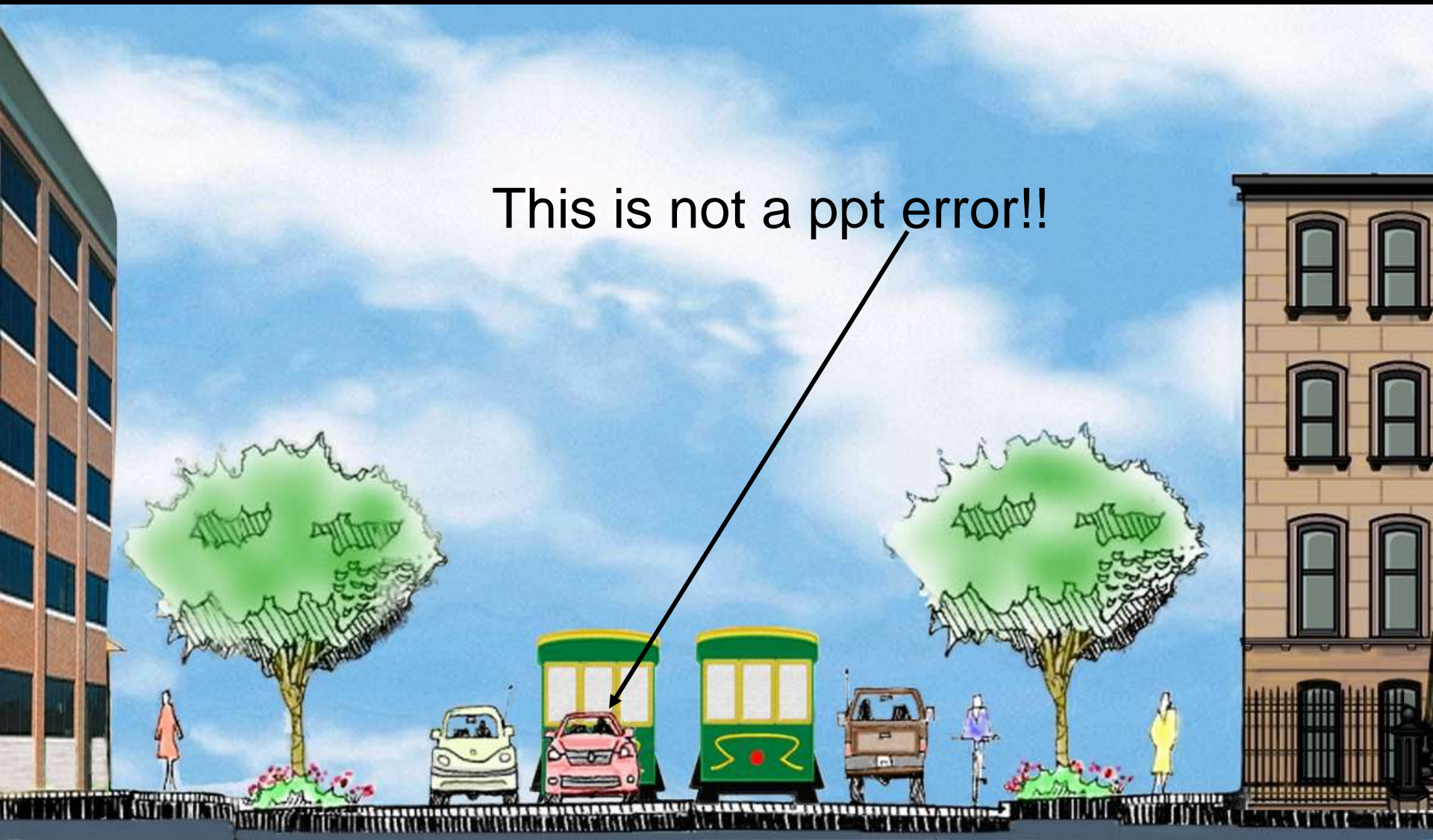


The Urban Roadway: use it!!



The Urban Roadway: use it!!

This is not a ppt error!!





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30,000 vpd



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Parking Lanes Too! (Temporal Parking)



So Put On Those Shoes:

- Change the culture
- Think pedestrian first – there will always be room for the SOV
- Challenge the ROW folks
- Share the Road – Even if it really means sharing the road; and of course as McCartney said:

“Someone's knocking at the door so...Let 'em in”

.....And one more thing.....

Please remember:



LIFE IS LIKE BIKING
YOU HAVE TO KEEP
MOVING
STAY IN BALANCE

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For more information:

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***Courtesy Promotes Safety: Please give pedestrians
and bicyclists a brake!***