Hillsborough TPO
Transportation
Planning Organization

2050 LRTP Needs Assessment for Congestion Management & Crash Mitigation

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Introduction

2050 Plan Ingredients

Revenue Forecast – Estimated value, thru 2050, of existing funding streams & potential local-option revenue sources

Needs Assessments – *including cost estimates, performance forecasts, and performance-based prioritization*

- Congestion Management & Crash Mitigation – safety treatments and traffic flow treatments

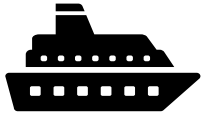
- Good Repair and Resilience – Pavement, bridge, & transit vehicle maintenance, stormwater systems expansion and vulnerable road hardening

Needs Assessments (cont'd)

- Real Choices When Not Driving – Bus and circulator services, paratransit/TD services, trails and side paths separated from motor vehicle lanes

- Major Investments for Economic Growth – New or wider highways/ major roads, separated grade interchanges, fixed-guideway transit including BRT, rail, ferry

- Goods Movement & Truck Routes – Major projects as well as lower-cost traffic flow treatments focusing on freight flows

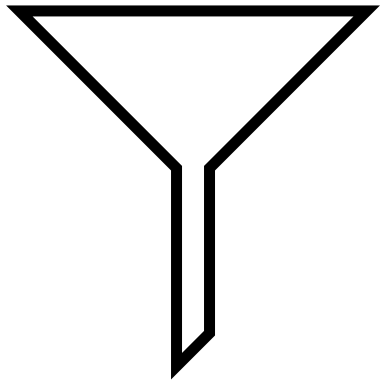


- Equity – Safety treatments, Good Repair & Real Choices projects to address sub-par infrastructure and public health in underperforming areas

The 2050 Plan: Putting the pieces together

Needs Assessments

Revenue Forecast



Various scenarios using revenue sources (“cost feasible scenarios”)

Public input

Board consideration of preferred scenario

Methodology

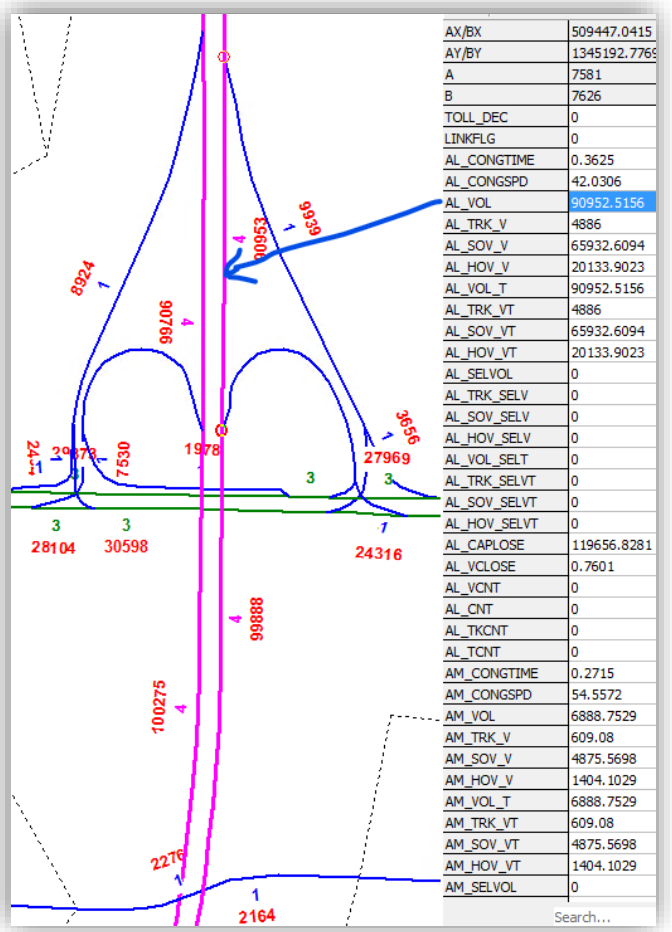
Needs Assessment Development

How many trips?

Where are they going?

How are they going?

Traffic on the network



Tampa Bay Regional Planning Model (TBRPM)

- Results from TBRPM include future traffic volumes
- Sketch tool uses traffic volumes to forecast travel reliability, minutes of delay and crashes on major roads
- Treatments were applied to roads based on their congestion and crash performance
- Treatments were selected by the local governments based on recently completed projects

Congestion Management Scenarios

Scenario 1 – TREND (Funding reflecting current spending)

- Annual budget for treatments: $24 M

- Treatments focused on the most congested roads
  - Freeways: Ramp Metering and Part-time Hard Shoulder Running
  - Arterials & Collectors: Real-Time Traffic Adaptive Signal Control

Congestion Management Scenarios

Scenario 2 – PERFORMANCE (Funding increased to improve system performance

- Annual budget for treatments: $48 M

- Treatments focused on the most congested roads
  - Freeways: Ramp Metering, Part-time Hard Shoulder Running, Traffic Incident Management
  - Arterials & Collectors: Real-Time Traffic Adaptive Signal Control and Left-Turn Lanes at Intersections where applicable

Impact of Congestion Management Treatments

Highway Type	Miles Improved		Peak Delay Reduction		Speed Increase		Annual Investment Cost in M	
	Trend	Performance	Trend	Performance	Trend	Performance	Trend	Performance
Collector	48	238	17%	59%	5%	19%	$1.5	$12.0
Divided Arterial	147	147	49%	49%	8%	8%	$9.0	$9.5
Undivided Arterial	56	56	48%	53%	7%	8%	$3.5	$5.0
Interstate/Freeway	49	108	64%	87%	33%	50%	$9.0	$21.0
Total	300	548	48%	70%	14%	21%	$24.0	$47.0

Crash Mitigation Scenarios

Annual Budget : $25 M for TREND and $50 M for PERFORMANCE

- Improvements considered on Arterials and Collectors
    - Bike Lanes
    - Lighting
    - Pedestrian Crosswalks and Signals
    - Convert TWLTL to raised median
    - Reduce Driveway Density
    - Speed Control/Enforcement
    - Traffic Calming

Impact of Crash Mitigation Treatments

Highway Type	Miles Improved		Total Crashes		Fatal Crashes		Ped + Bike		Annual Investment Cost in M	
	Trend	Performance	Trend	Performance	Trend	Performance	Trend	Performance	Trend	Performance
Divided Arterial	565	565	59%	59%	59%	59%	82%	82%	$21	$24
Collector	0	277	12%	39%	13%	40%	0%	43%	$0*	$11
Undivided Arterial	77	220	40%	64%	42%	63%	43%	80%	$4	$15
Total	642	1062	35%	43%	38%	46%	55%	71%	$25	$50

* In Trend Scenario money is expended before adding treatments on all corridors

Congestion

$24 M per year could reduce future peak delay by almost 50% and speed increase by 14% on 300 miles of roadway. Doubling the investment could result in 70% delay reduction and 21% speed increase on 550 miles of roadway

Safety

$25 M per year could reduce fatal crashes by 35% and bike ped crashes by 55% on 640 miles of roadway. For $50 M per year, fatal crashes could be reduced by 46% and bike ped crashes could be reduced by 71% on over 1060 miles of roadway by 2050.

Recommended Action:

Approve the Draft 2050 Plan Needs Assessment for Congestion Management and Crash Mitigation and forward to the TPO Board for consideration

Questions/Comments

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