Today’s Meeting Purpose

• Where We Are
• What We’ve Heard
• Screen 2 Analysis Results
• Question and Answer
• Where Do We Go From Here?
Purpose and Importance of this Study

- Evaluate feasibility of increased transit service
- Identify potential for high-capacity transit project implementation

Differentiation Between Past Studies

- Focused investment along GA 400 corridor
- Assess land development over past decade
- Consider demographic changes in study area
- Advance planning process from previous studies
Where We Are
Connect 400 Alternatives Analysis Schedule

**DISCOVERY**
- Goals and Objectives
- Purpose and Need
- Existing Conditions

**2011 Winter**

**DISCUSSION**
- Evaluation Methodology
- Definition of Alternatives
- Refine Ridership Model

**2012 Spring**

**DEVELOPMENT**
- Evaluation of Alternatives
- Refine Alternatives

**2012-2013 Summer-Spring**

**DOCUMENTATION**
- Early Scoping

**2013 Summer**

We are Here
Federal Project Development Process

Project Development: Typically 6 – 12 years

1 – 2 years  2 – 3 years  1 - 3 years  2 – 3 years

Alternatives Analysis / System Planning
Preliminary Engineering / Finalize Environmental
Final Design
Construction
Operation

We are Here
Screening Process and What We’ve Heard
Technical Screening Process

**Fatal Flaw Analysis** considers at a high level:
- Purpose & Need
- Constructability & right-of-way impacts
- Generalized Technology Assessment

*Defined alternatives (combinations of alignment & transit technology) for Screen 1*

**Screen 1** applies both quantitative & qualitative evaluation criteria to reduce the number of alternatives

*Smaller set of alternatives advance into Screen 2*

**Screen 2** involves a more in-depth analysis using additional performance measures

*Screen 2 refines the alternatives*

Recommendation to MARTA Board

Fatal Flaw Analysis

Screen 1 Analysis

Screen 2 Analysis/
Alternatives Refinement

Early Scoping
Stakeholder and Community Outreach

- **Stakeholder Interviews** – approx. 30
  - February to April 2012
  - Staff and local officials throughout study area

- **Public Meetings**
  - January 22, 2012; May 22, 2012; March 21, 2013
  - North Fulton Chamber of Commerce Breakfast Forum – Aug. 30, 2012

- **Technical Advisory Committee**
  - Reviews process and provides guidance on screening methodology

- **Project Steering Committee**
  - Provides guidance on local policies and broader community concerns

- **Holiday/Winter Survey** – 136 Respondents
  - Prefer heavy rail extension
Overview of Fatal Flaw Analysis

Step 1: Technology Assessment
- Independent review of 6 modes
- Most appropriate - Bus Rapid Transit (BRT); Light Rail/Streetcar (LRT/SC); Heavy Rail (HRT)

Step 2: Universe of Alternatives
- 3 modes + 9 alignments along GA 400 & SR 9

Step 3: Fatal Flaw Analysis
- Reduce ‘universe’ to a smaller set for Screen 1
- High-level based on purpose/need & constructability
Screen 1 and Outreach Summary

• Methodology/Assumptions
  • Qualitative and quantitative analysis
  • Performance measures based on Purpose and Need, Goals and Objectives
  • Station-related measures normalized for number of stations

• Results
  • Alignments should be limited to be adjacent to or within GA 400 right-of-way
    • Fewer potential community and environmental impacts
    • More population and employment access per station
    • East/West feeder connections are needed to relieve arterials
  • Heavy Rail Transit (HRT) was preferred due to speed and elimination of transfer
  • Windward Parkway was preferred to be a Regional Station
  • Northridge rather Pitts was a preferred station location
  • Community Stations are preferred for:
    • Northridge, Holcomb Bridge, Mansell, North Point, and Old Milton
Screen 1 Findings

Fatal Flaw Analysis considers at a high level:
- Purpose & Need
- Constructability & right-of-way impacts
- Generalized Technology Assessment

Screen 1 applies both quantitative & qualitative evaluation criteria to reduce the number of alternatives

Smaller set of alternatives advance into Screen 2

Screen 2 involves a more in-depth analysis using additional performance measures

Screen 2 refines the alternatives

Recommendation to MARTA Board

GA 400-1A

Heavy Rail (HRT)

Light Rail (LRT)

Bus Rapid Transit (BRT)
Detailed Screen 2
Findings
Alternatives for Screen 2

Georgia 400 – 1 (A)

Alignment
• 11.9 miles Long
• North Springs Station – Windward via GA 400

Transit Technology
• Bus Rapid Transit
• Light Rail/Streetcar
• Heavy Rail

Potential Stations
• Northridge
• Holcomb Bridge
• Mansell Road
• North Point
• Old Milton
• Windward Parkway

* GDOT ROW availability on GA 400 to be determined based on Managed Lanes Study
Screen 2 Analysis

• **Rating System**
  - High, Medium, or Low with a score of 2, 1, or 0 respectively
  - Best performing alternative rated ‘High’ for each measure; other alternatives rated relative to best performing alternative

<table>
<thead>
<tr>
<th>Rating</th>
<th>Deviation from Highest Performing</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>0 to 10%</td>
<td>2</td>
</tr>
<tr>
<td>Medium</td>
<td>10 to 20%</td>
<td>1</td>
</tr>
<tr>
<td>Low</td>
<td>Greater Than 20%</td>
<td>0</td>
</tr>
</tbody>
</table>
Screen 2 Findings

**Distinguishing Performance Measures**

- Many of the performance measures showed no significant difference between alternatives.
- Distinguishing Measures are those measures where the alternatives rated differently.

<table>
<thead>
<tr>
<th>Goal 1: Mobility &amp; Access</th>
<th>Goal 2: Land Use &amp; Economic Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ridership</td>
<td>Transit Supportive Land Use</td>
</tr>
<tr>
<td>Time Savings</td>
<td>Underutilized Land</td>
</tr>
<tr>
<td>Crash Reductions</td>
<td></td>
</tr>
<tr>
<td><strong>Goal 3: Cost Effective Service</strong></td>
<td><strong>Goal 4: Environment</strong></td>
</tr>
<tr>
<td>Capital</td>
<td>Changes in VMT</td>
</tr>
<tr>
<td>Operations &amp; Maintenance</td>
<td>Pollution</td>
</tr>
<tr>
<td>Cost per Trip</td>
<td>Noise</td>
</tr>
</tbody>
</table>
Screen 2 Results – Goal 1

Goal 1: Improve Mobility & Access
Best Performing Alternative(s): HRT

Distinguishing Measures

- Scored significantly higher than other alternatives for Goal 1
- Scored ‘High’ while other alternatives scored ‘Low’ for:
  - Daily Projected Transit Boardings
  - New Transit Riders
  - Annual Corridor Crash Reductions

- Scored ‘High’ while other alternatives scored ‘Medium’ for:
  - Projected Population and Employment within a 10-Minute Drive
  - Low-income residents within 10-Minute Walk
  - Interface with existing/future transit (including Concept 3)
### Screen 2 Results – Goal 1

## Mobility & Ridership

<table>
<thead>
<tr>
<th></th>
<th>Heavy Rail Transit (HRT)</th>
<th>Light Rail Transit (LRT)</th>
<th>Bus Rapid Transit (BRT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily Transit Boardings (2040)</td>
<td>23,700</td>
<td>15,800</td>
<td>13,300</td>
</tr>
<tr>
<td>New Transit Riders (2040)</td>
<td>10,900</td>
<td>7,000</td>
<td>5,400</td>
</tr>
<tr>
<td>Annual Corridor Crash Reductions</td>
<td>44</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>Daily Travel Time Savings (Hours of User Benefits)</td>
<td>9,300</td>
<td>6,200</td>
<td>4,500</td>
</tr>
</tbody>
</table>

*All ridership forecasts are estimates and are subject based on further analysis.*
Goal 2: Support Land Use & Economic Development

Best Performing Alternative(s): LRT

Distinguishing Measures

- Rated ‘High’ in 3 of the 4 Distinguishing Measures:
  - Consistency with adopted local/regional plans
  - Transit-supportive land use/zoning within ½ mile of stations
  - Acres of vacant or underutilized land within ½ mile of stations
Goal 3: Provide Cost-Effective Transit Service
Best Performing Alternative(s): BRT

Distinguishing Measures

• Scored significantly higher than others in cost measures
• Scored ‘High’ in all four of the Distinguishing Measures while other alternatives scored ‘Low’:
  • Annual Operating & Maintenance (O&M) Costs
  • Construction Capital Costs
## Costs & Cost-Effectiveness

<table>
<thead>
<tr>
<th></th>
<th>Heavy Rail Transit (HRT)</th>
<th>Light Rail Transit (LRT)</th>
<th>Bus Rapid Transit (BRT)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual Estimated O&amp;M Costs</strong></td>
<td>$18 Million</td>
<td>$20 Million</td>
<td>$10 Million</td>
</tr>
<tr>
<td><strong>Construction Capital Costs</strong></td>
<td>$2.4 Billion</td>
<td>$1.8 Billion</td>
<td>$631 Million</td>
</tr>
<tr>
<td><strong>Cost Per Trip</strong></td>
<td>$17</td>
<td>$21</td>
<td>$12</td>
</tr>
</tbody>
</table>

All costs are estimates and are subject to change based on additional engineering analysis.
Goal 4: Minimize Environmental Impacts
Best Performing Alternative(s): HRT

Distinguishing Measures

- HRT slightly better than BRT; LRT scored low
  - HRT (14)
  - BRT (9)
  - LRT (4)
- Distinguishing Measures:
  - HRT has greatest ability to reduce vehicle miles traveled (VMT) and air quality pollutants
  - BRT has least impact on noise-sensitive land uses
  - HRT would have lesser impact to water resources, historic resources and vibration-sensitive locations because of the absence of Old Milton station
## Environmental/Community Impact

<table>
<thead>
<tr>
<th></th>
<th>Heavy Rail Transit (HRT)</th>
<th>Light Rail Transit (LRT)</th>
<th>Bus Rapid Transit (BRT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in Vehicle Miles Traveled</td>
<td>-48,000</td>
<td>-24,000</td>
<td>-16,000</td>
</tr>
<tr>
<td>Reduction in Air Quality Pollutants</td>
<td>Highest</td>
<td>Intermediate</td>
<td>Lowest</td>
</tr>
<tr>
<td>Noise-Sensitive Land Uses w/in 750’ of HRT, 350’ of LRT, 200’ of BRT (Residential + Low-Density Commercial + Institutional)</td>
<td>841 acres</td>
<td>250 acres</td>
<td>73 acres</td>
</tr>
</tbody>
</table>
Screen 2 Results – Summary

- **HRT** provides higher ridership numbers, transit benefits and reductions in vehicular traffic.

- **All three alternatives** are relatively equal in supporting land use & economic development planning. BRT is much cheaper and cost-effective than the other alternatives.

- **HRT** presents least environmental impact, and most beneficial to reducing VMT and air pollutants.
Questions or Feedback?

• Screen 2 Results
• Alignment
• Station Types
Moving Forward
Early Scoping

Screen 2 Results

Public Input

Steering Committee Input
Next Steps

• Engineering refinement

• Present final alternatives to public (Early Scoping for NEPA) in June

• Environmental (NEPA) Process

• Begin second round of stakeholder interviews
OLD New Starts vs. NEW New Starts Process

OLD New Starts Process:
- Systems Planning
- Alternatives Analysis

PROJECT MANAGEMENT OVERSIGHT
- Decision Point
- Decision Point

NEW New Starts Process:
- Systems Planning
- Project Development
  - NEPA Process
  - Locally Preferred Alternative
  - Justification under New Starts Criteria
- Engineering
  - Commitment of Non-Federal Funding
  - Construction Plans
  - ROW Acquisition
  - FTA Evaluation for FFGA
  - Begin Negotiations

FULL FUNDING GRANT AGREEMENT
- Construction

ENVIROMENTAL
- Planning

ENGINEERING
- Planning
- Environmental

CONSTRUCTION

PROJECT MANAGEMENT OVERSIGHT
- Decision Point
- Decision Point
Connect 400 Contact

Jason Morgan, MARTA Project Manager

Connect400@itsmarta.com

Follow us at Connect 400 on facebook