



# Route Optimization

Fairfax Connector Service

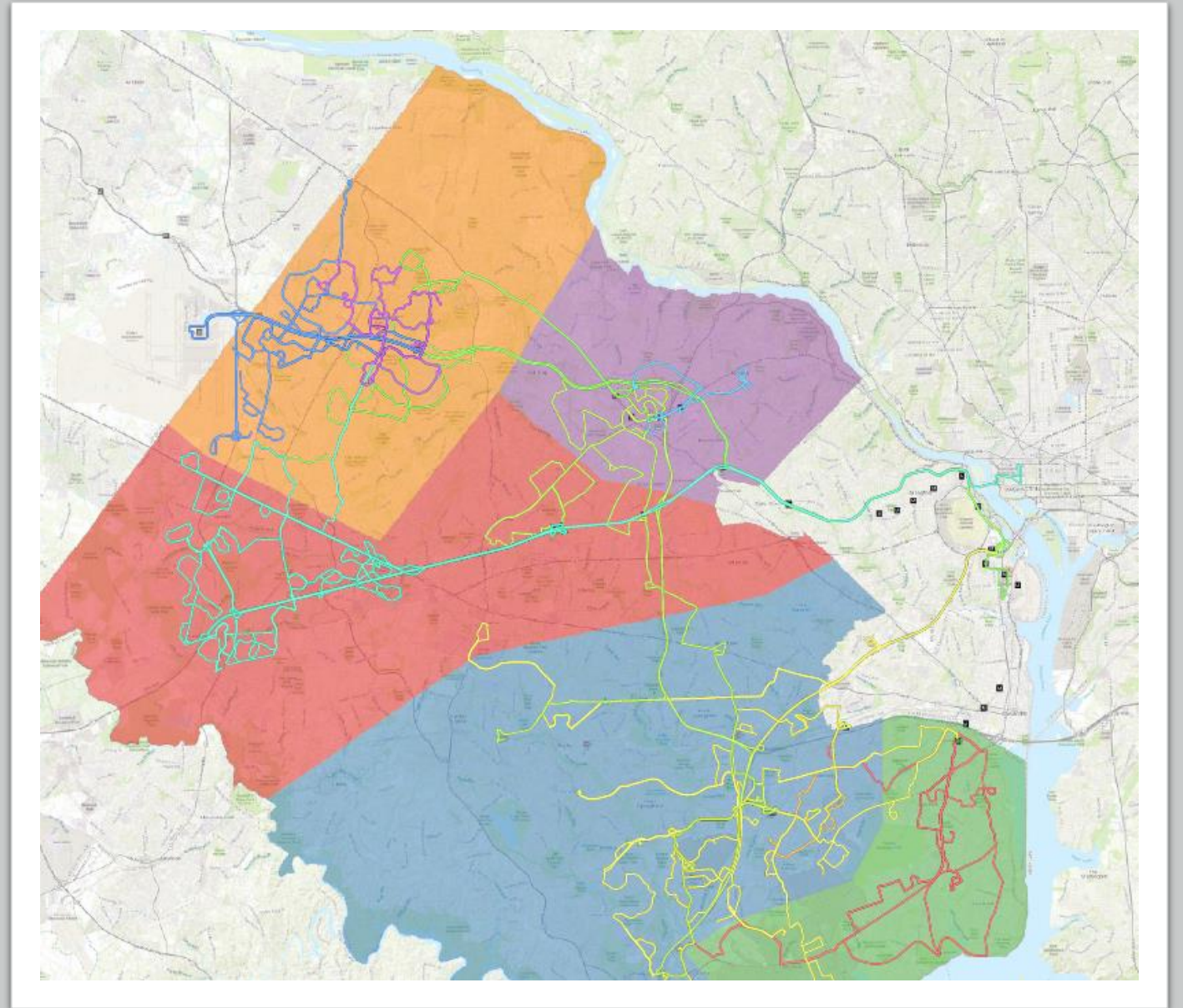
TAGS June 5, 2019

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Fairfax County Department of Transportation

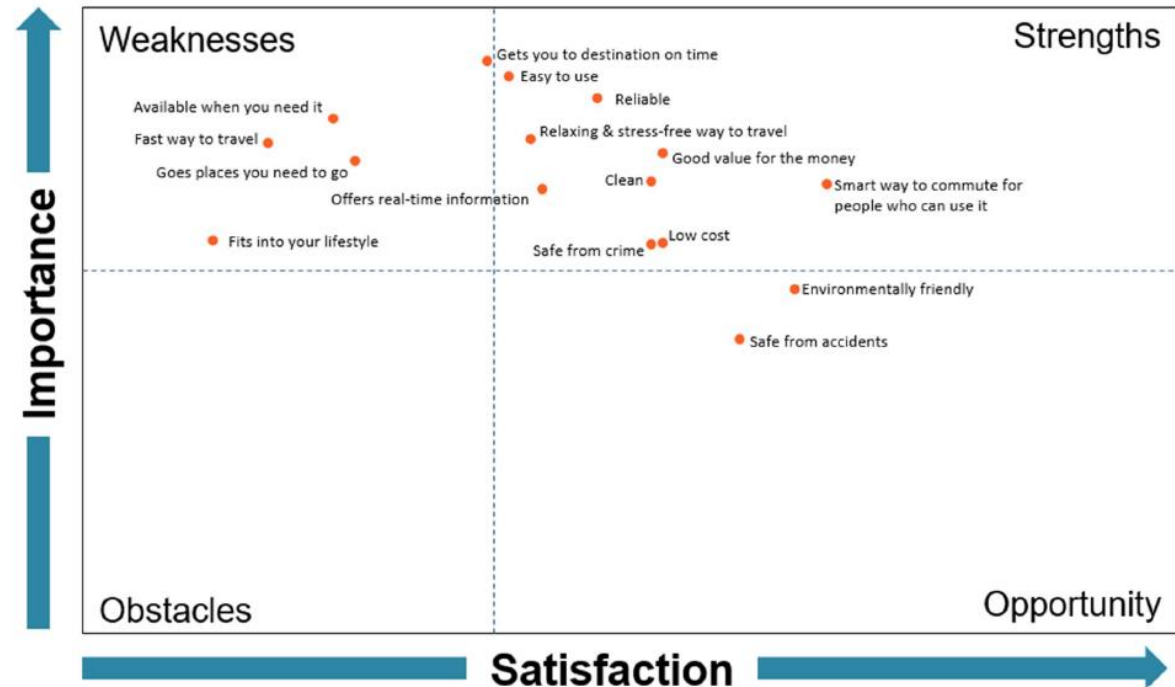
# Transit Development Plan: Route Optimization

- Franconia / Springfield
- Herndon / Reston  
(Silver Line Phase 2)
- Vienna
- Tysons
- Huntington

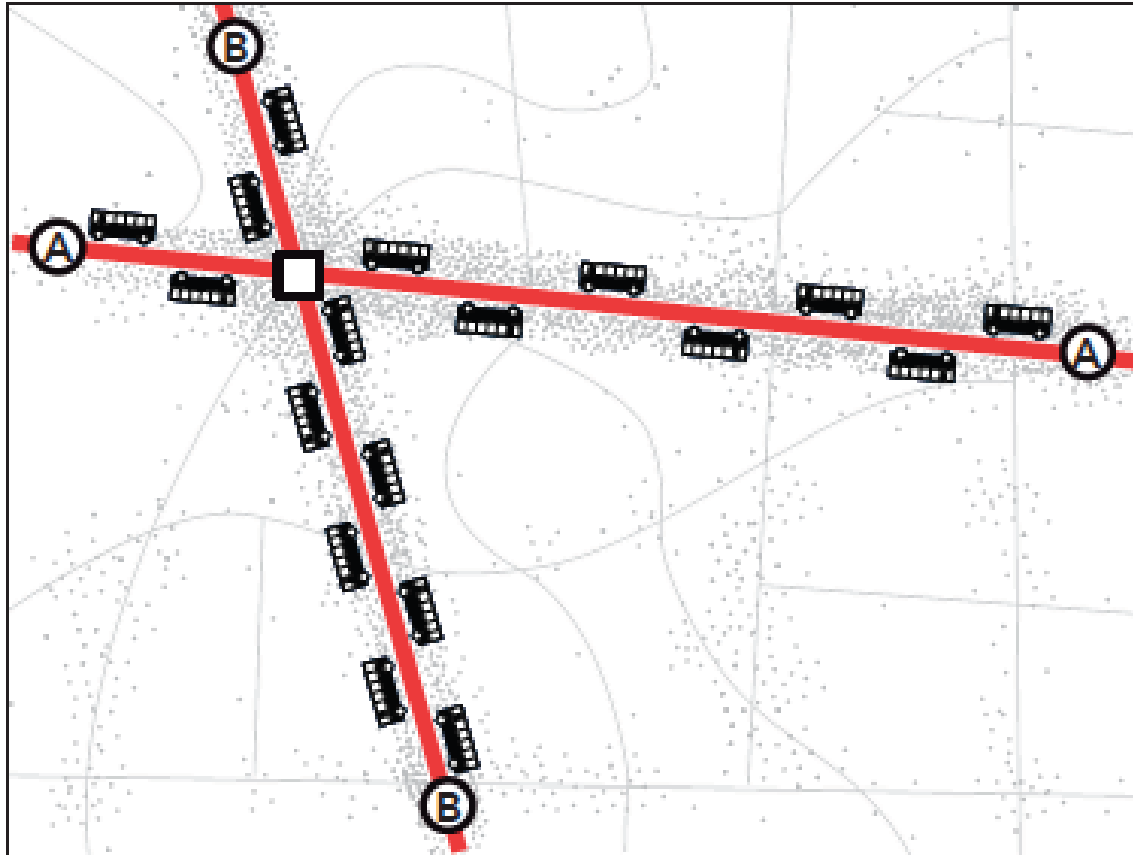


# Understanding the Issues

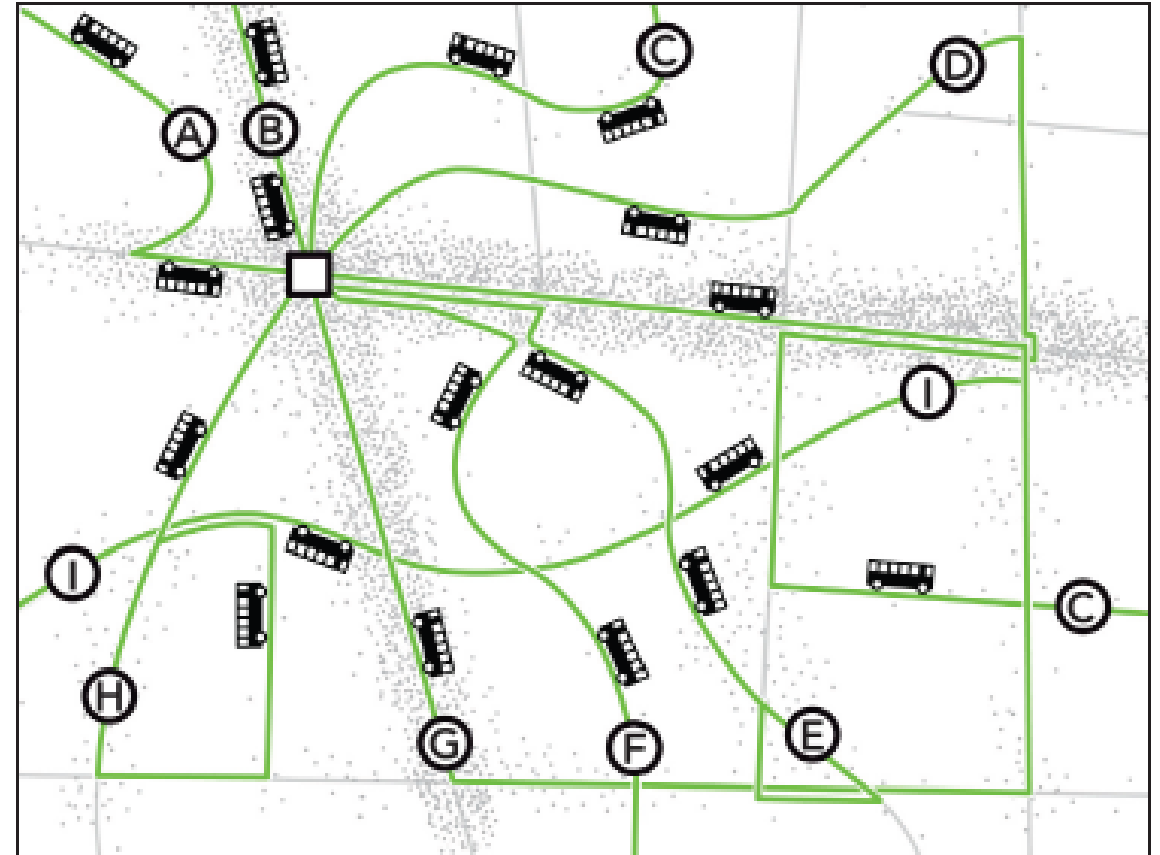
- Fast way to travel
- Available when needed
- Goes to desired places
- Gets people to their destinations on time
- Fits into people's lifestyle



## Maximum Ridership

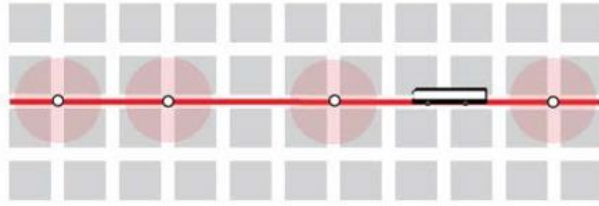


## Maximum Coverage

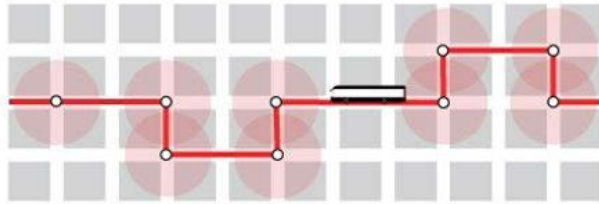


#### 4. Design simple, direct routes

Transit service is more efficient to provide and easier for customers to understand when routes are designed in simple, linear patterns without complicated paths.



*Simple and Direct*



*Indirect and More Confusing*

#### 2. Design routes with strong anchors at both ends

Transit is more efficient with balanced passenger loads in each direction. Important destinations at each end help to distribute demand evenly and limit overcrowding of vehicles and over-supply of service.



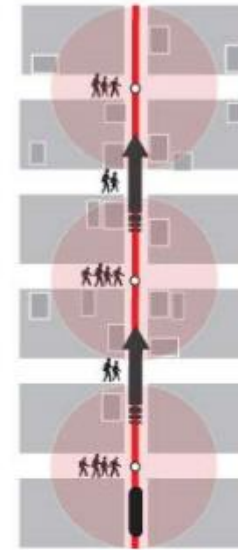
*Balanced Demand*



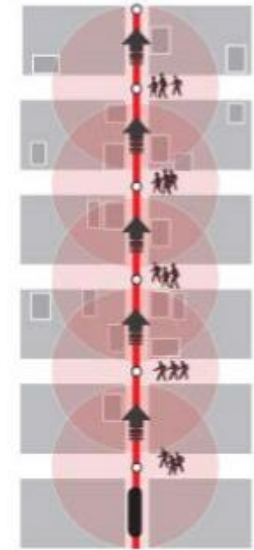
*Unbalanced Demand*

#### 8. Balance walking distance and travel speed

Routes with more stops provide shorter walks to transit but at slower travel speeds. A transit network needs to balance between providing fast service with fewer stops and slower service with many stops.



*Faster service, less access*



*More access, slower service*

# Planning Process



Understanding the Issues



Public Outreach



System Evaluation



Alternative Development



Public Outreach



Selection of Preferred Service Plan



Public Outreach



Refine Preferred Service Plan

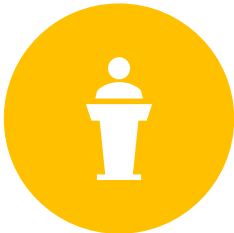
# Outreach



WORKING  
GROUP



STAKEHOLDERS



PUBLIC  
MEETINGS



ONBOARD  
SURVEY



ONLINE  
SURVEYS

# Service Alternatives



Three service alternatives are being studied:

Alternative 1 – incremental changes to TDP recommendations

Alternative 2 – major route adjustments to existing routes

Alternative 3 – total rebuild of existing service



All alternatives would be developed revenue neutral, with no increase in total revenue hours.



# Evaluation Process

## Route Analysis

- Ridership
- On-time performance
- Transit propensity

## Access and Mobility Assessment

- Connection to key locations
- Transit propensity
- Origin–destination analysis
- Transit modeling

## Qualitative Assessment

- Public input
- Customer / community impacts
- Service preferences

# Network Evaluation

Evaluate alternatives based on connectivity to facilities:

- Schools (middle schools and high schools)
- Colleges
- Activity centers
- Government facilities
- Metrorail, VRE, and transit stations
- Park-and-ride lots
- Transit propensity
- Bus stop locations and boardings

Criteria can also be used to compare the connectivity of a new route alignment with that of an existing route alignment.

# Select Preferred Alternative



**Community Needs**



**Increase Ridership**



**Improve Connectivity**



**Access and Mobility**

# Implementation Phasing

1

Step One  
(6 to 12 months)

- Bus stop utilization and minor route adjustments

2

Step Two  
(1 to 2 years)

- Budget neutral service change
- Adjustment in level of service and/or span of service

3

Step Three  
(3 to 5 years)

- Adjustment with major level of service change
- Capital improvements and/or new fleet requirements

# Questions?