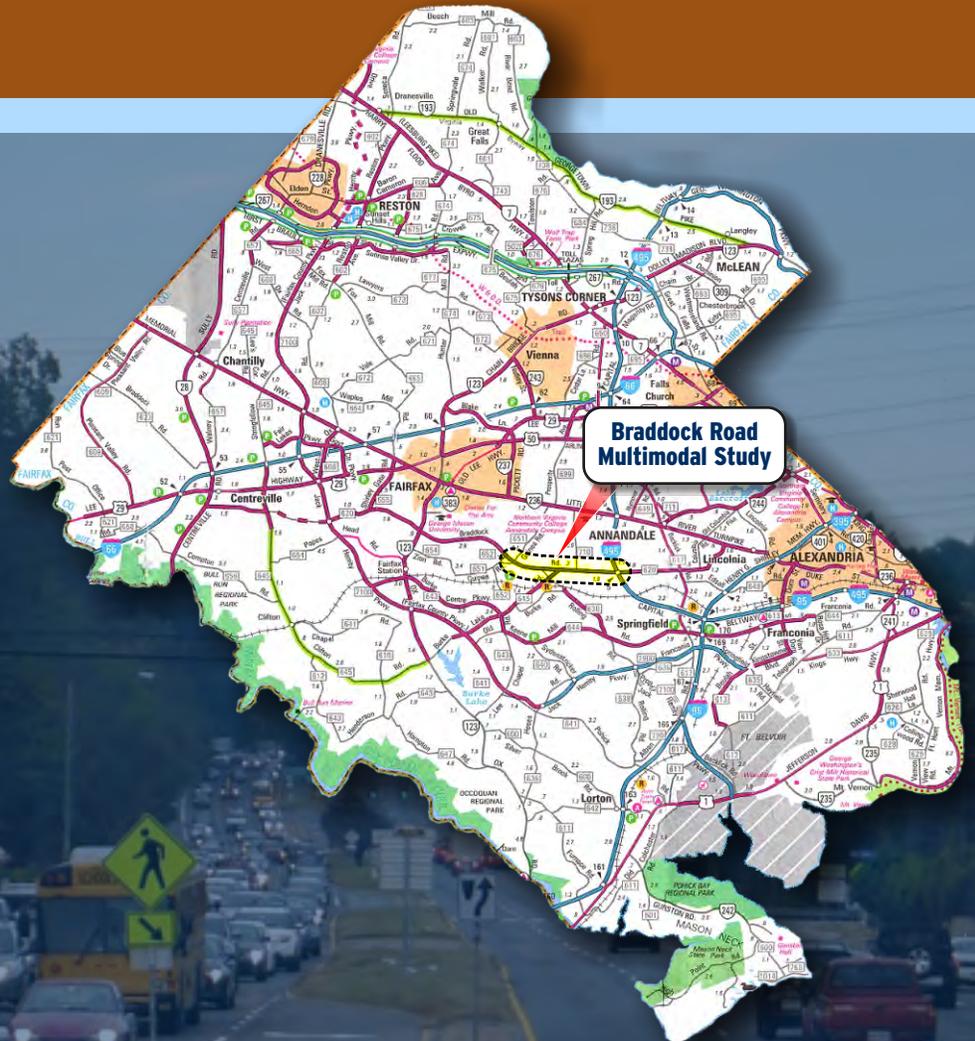
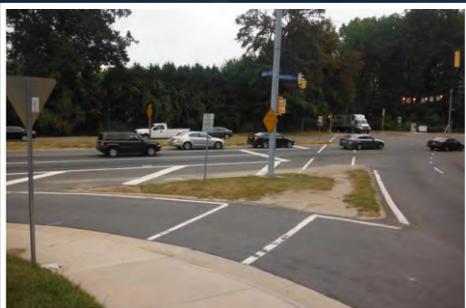




# Braddock Road Multimodal Study

County of Fairfax, Virginia

# Task Force Meeting Materials



Date: July 1, 2015



**July 1, 2015**  
**Braddock Road Multimodal Study**  
**Fairfax County, Virginia**

**Task Force Meeting**

- I. Introduction ..... Kevin Morse, Chairman
- II. Progress Since Last Task Force Meeting (5 minutes)..... Tad Borkowski/Michael Guarino
- III. Discussion Items..... Tad Borkowski/John McDowell
  - a. Debrief of June 9, 2015 Community Meeting (30 minutes) Tad Borkowski/John McDowell
    - i. Roundtable of Task Force Members’ reactions
    - ii. Review of Citizens comments received
    - iii. Critical Issues for future Community Meetings
    - iv. Plan for Fall 2015 Community Meeting
  - b. Transit Center Sites (20 minutes)..... John McDowell
    - i. Review of Citizens’ comments and preferences
    - ii. Sites to carry forward in analysis
    - iii. Critical site issues to evaluate
  - c. Measures of Effectiveness Discussion (45 minutes) ..... Tad Borkowski/John McDowell
    - i. Review of comments
    - ii. Detailed Discussion of Roadway Qualitative Measures
      - 1. Definitions
      - 2. Relative Importance
- IV. Following Month’s Activities (10 minutes) ..... Tad Borkowski/John McDowell
  - a. Continue Travel Demand Modeling
  - b. Continue VISSIM preparation
  - c. Develop Transit Center site plans and evaluate
  - d. Begin alignment option development
  - e. Next Task Force Meetings
- V. Adjourn Meeting ..... Kevin Morse, Chairman



*June 3, 2015*

***Braddock Road Multimodal Study  
Fairfax County, Virginia***

***Task Force Meeting Minutes***

**Action Items**

**Task Force Members**

- Get word out to their constituents about the June 9<sup>th</sup> Community Meeting
- Review the provided MOE materials and provide comments prior to next meeting

**FCDOT**

- Work with the RK&K Team on preparation for the June 9<sup>th</sup> Community Meeting.

**RK&K Team**

- Prepare exhibits and presentation for the June 9, 2015 Community Meeting
- Continue to advance analysis and transit center layouts

**Discussion**

Tad Borkowski began the meeting by discussing the work completed over the last month (May 2015) which included preparing for the June 9<sup>th</sup> Community Meeting, presenting materials to Supervisor Cook, and continuing development of the transit center sites, traffic forecasting, VISSIM and MOEs.

John McDowell began presenting the meeting materials to the Task Force. He noted that the meeting would be held from 7:00 to 9:00 PM on June 9<sup>th</sup> at the Lake Braddock Secondary School. The format would be a welcome session followed by a 30 minute presentation, 15 minute Q&A and then continued breakout time. (The presentation shown is attached to these minutes).

The following comments were provided by the Task Force on the materials:

- The timeline board should mention the broader study area and that the study and implementation bars on the bottom were confusing.
- The green band on the timeline board says “Full Project Open to Traffic” – is that true?
- On the timeline board, it is confusing the intent of the Burke Lake Road to I-495 and Transit Center mentions
- On the project board please verify the bike lanes on Lake Braddock Drive
- Overall, include the purpose for each board in the title
- Are the projects presented really proposed or are they funded?
- On all of the boards differentiate the colors a little more
- Should the board background be aerial or “map” similar to Google? (The room voted for “map”)
- It was noted that the board showed an error in the sidewalk – no sidewalk along Braddock Road between Guinea and Rolling.
- It was asked why the boards do not show pedestrian crossings on the side streets
- The O-D map as previously presented was very confusing. Perhaps a more general form such as volumes from each location would be easier to interpret.
- It was asked what the transit board presented? – it was noted that it shows existing routes **not** candidate routes.

- It was noted that it should keep in mind that Kings Park is no longer as shown in the aerial and recommended that a representation of the new layout be provided.
- On the National/International board it was noted that the **what** text should be better and the location text smaller
- On the National/International board some concern was noted as to what the board shows and **why**
- On the typical sections, a question was raised as to how the barrier for HOV could be shown on the outside
- The typical sections were noted to show what appears to be a lot of land being needed
- Kiel noted that the typical section board gives the idea of advanced design and it should show lines and labels but no cars and should be renamed to be less definitive.
- John noted that two additional boards (Origin-Destination and Bike/Ped Accommodations) were still being produced but will be shown at the June 9<sup>th</sup> meeting.

At this time, it was noted that given time constraints the MOEs were off the table for this meeting. It was asked that the Task Force take the information home and review. The County requested that the Task Force provide comments and be prepared to discuss during the July meeting.

#### **Planned Activities for June 2015**

- Finalize preparation for June 9, 2015 Community Meeting
- Participate in June 9, 2015 Community Meeting
- Continue refinement of transit center sites
- Begin developing strategies for improvements to Braddock Road
- Travel Demand Modeling efforts will continue, begin focusing on modeling of future conditions
- Continue VISSIM modeling of existing conditions.

Should any revisions to these meeting minutes be required, please advise Tad Borkowski at [tad.borkowski@fairfaxcounty.gov](mailto:tad.borkowski@fairfaxcounty.gov) or John McDowell, PE at [jmcdowell@rkk.com](mailto:jmcdowell@rkk.com).

**June 9, 2015**  
**Braddock Road Multimodal Study**  
**Fairfax County, Virginia**

**Public Information Meeting #1**  
**Summary**

**Overview**

The first public meeting for the Braddock Road Multimodal Study took place from 7-8:30 pm on June 9, 2015, at Lake Braddock Secondary School (9200 Burke Lake Rd, Burke). Approximately 160 members of the public attended the meeting.

There was a presentation at 7:30. Supervisor Cook gave remarks and then Michael Guarino (Fairfax County DOT) spoke about the project. Attendees were encouraged to visit a set of display boards and speak with the project team before and after the presentation. There were many opportunities to provide feedback, including a survey and activities at display boards. All input is summarized below.

The presentation has been posted on the Braddock Road Study Information website, and mailed responses to the survey are being accepted until June 26.





### Post-Presentation Questions and Comments

- Will these Braddock Road changes create land use changes that will then exacerbate traffic?
- Has the study considered the demographics of the area and people's needs related to this (e.g., older citizens)?
- We need pedestrian bridges at Wakefield & Kings Park Shopping Center. Accommodate bikes and motorized scooters. Don't let Braddock Road become Route 1.
- Where is the proof that HOV/HOT will help? [Clapping] A transit center won't help either. Not enough people take the bus.
- None of my neighbors knew about the survey. So what value does it have (if it's not statistically significant)? Could have done a more focused study of opinions in the immediate area.
- This study will take 3-5 years to get anything built. Are there any improvements we can do sooner?
  - A: Burke Lake Road to I-495 can go straight into design following this study.
- Can't assume more people will take the bus. Lots of people can't use it because it's not convenient for their work schedule. A transit center will just attract people from outside the neighborhood. Parking is already an issue at the new Giant/shopping center. It has already added more traffic.
  - A: Kings Park Shopping Center is still on the table because all bus routes intersect there. But we're looking at other sites, too. We think we will get more riders if there is better service.
- What were the percentages of positive vs. negative comments on the survey? What would be the tipping point in terms of percentage of responses needed?
  - A: It is unlikely that the survey results would be used in that manner.
- The choke point on the Beltway won't change if you add HOV/HOT lanes on Braddock Road.
- A transit center won't help unless you add service to more destinations.
- Burke Lake Road to Guinea Road is just funded for the study now. When will it be funded to implement?
  - A: Other parts are funded, but we want a cohesive plan for Braddock Road, so we are including it in the study here. We want to tee up Burke Lake to Guinea for future funding decisions, so we're doing the study now. Beyond 2020 there is potential funding to construct.

### **Summary of Input at the Display Board Stations**

#### **Station 1: Study Goals & Timeline**

No comments.

#### **Station 2: Regional Projects**

*Do you know of any other projects that we should be accounting for within the region? Please write the project(s) on a sticky note and place it on the board.*

No comments.

#### **Station 3: Commuter Survey Results**

No comments at the station. On the survey, several people noted that they (or their neighbors) were not aware of the survey. There were some questions about the statistical validity of the survey.

#### **Station 4: Existing Conditions**

*Are we missing any issues? Please write them on a sticky note and place it on the photo board.*

While not all comments responded directly to the question we posed, the input does point to certain existing conditions and themes:

- **Bus frequency, bus stop infrastructure, and ease of access**
  - “Frequent busses not as widely spread out as now”
  - “More busses, less road widening.”
  - “Wherever there is a bus stop there should be a safe way to cross the street” \*
- **Pedestrian conditions**
  - “Handicapped people have hard time crossing 6 lanes with walk light at Wakefield Chapel. With 8 lanes it will be impossible without longer light.”
  - “Pedestrian bridges are a good idea”
  - “Pedestrians walk on sidewalks in subdivisions not on soon to be major highways.”
- **Bicycle facilities**
  - “No bike lanes” \*\*
  - “Need bike facilities inside the beltway too! Braddock Road ~ 495 → Backlick is horrible for sidewalks/bicycles.”
- **Environmental considerations**
  - “Whatever you do don’t destroy the trees.”
  - “Inadequate water runoff management on already existing lanes on Braddock road near Guinea.”
- **Maintenance**
  - “Grass a hazard [-] does not get cut”
- **Intersection concerns**
  - “Adaptive traffic signals for entire length.”
  - “Need to eliminate right on red for safety of pedestrians at all intersections.”

~~ Indicates illegible handwriting.

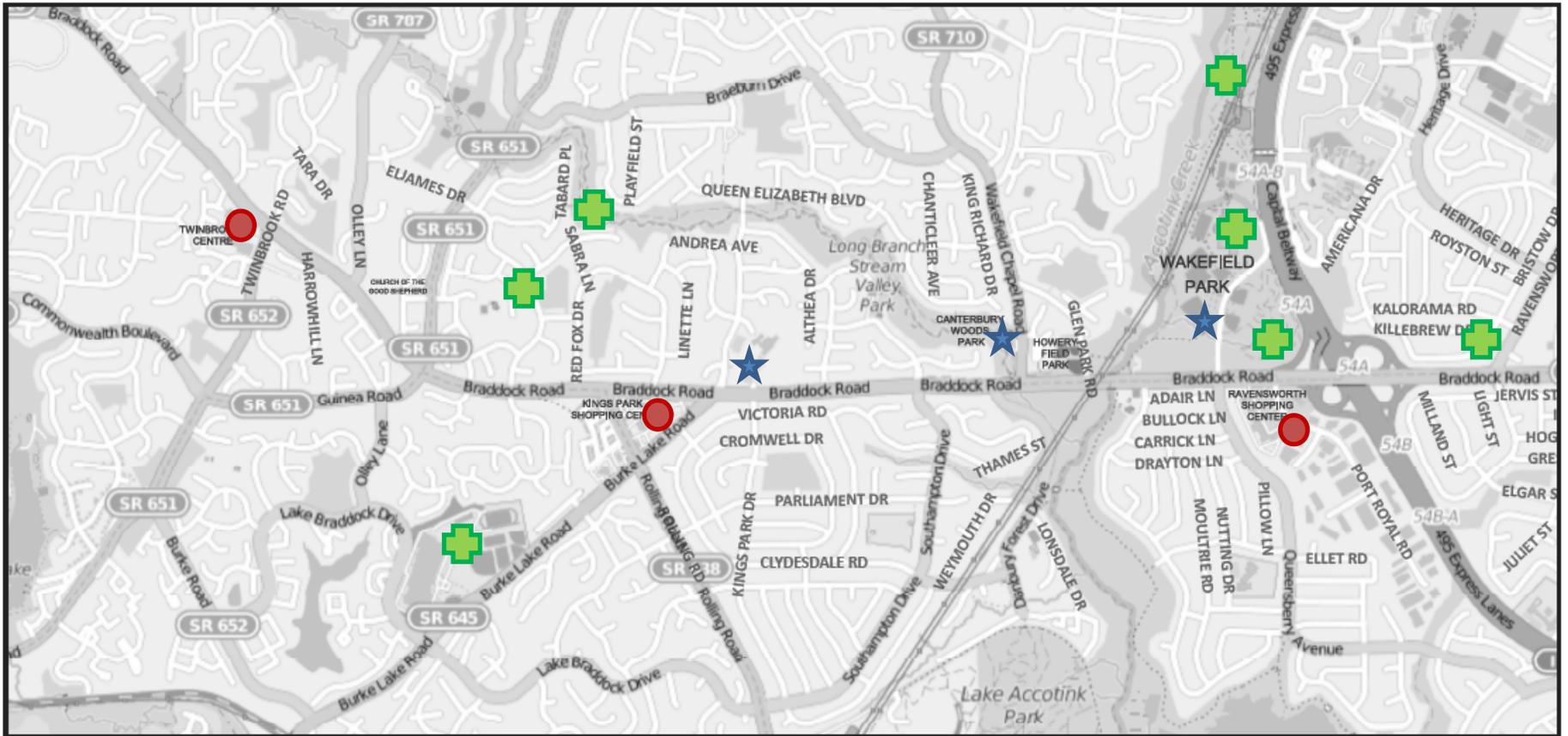
\* Indicates the comment was agreed with by another community member. Number of asterisks indicate how many people agreed.

### **Station 5: Bicycle & Pedestrian Accommodations**

*On the map provided (8.5x11" map of the study area), please indicate where you live and the potential routes you would take for biking and walking in this area.*

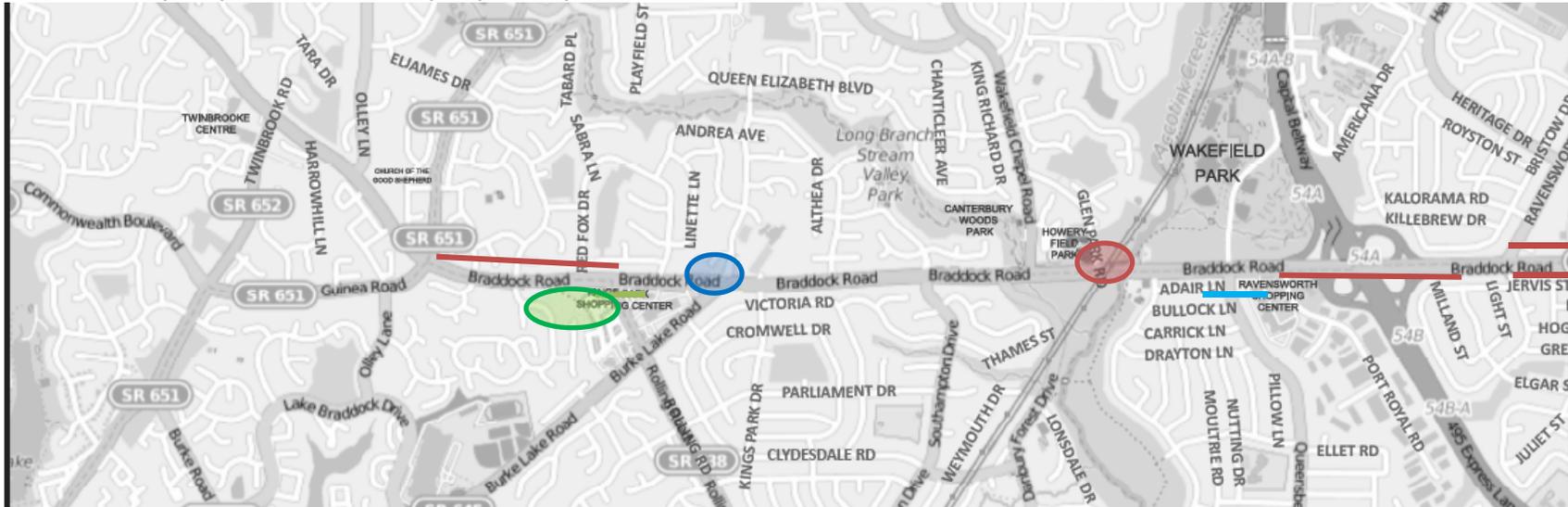
- 25 activity sheets completed.
- Summary in three maps with notes below:
  - Destinations that you visit
  - Routes that require pedestrian and bicycle improvements
  - Priority pedestrian crossing locations

**Destinations that you visit:**



-  Park & ride
-  Shopping
-  Other destinations (parks, greenways, schools, recreation centers, church)

**Routes that require pedestrian and bicycle path improvements:**



- No sidewalk or multiuse path exists
- Dangerous intersection for pedestrians. Since a right turn is allowed on red, cars are not paying close attention to the pedestrians trying to cross the street. Suggest no right turn on red from Woodland Way onto Braddock Road. Cars also exit too quickly turning right off of Braddock onto Burk Lane Road. The drivers do not expect to see a pedestrian in the crosswalk.
- This path is in particularly poor repair. It is not maintained.
- Underground tunnel should be improved so that it feels safer. Like to access the park through this tunnel.
- Crossing is unsafe. Cars turn quickly off of Braddock to Rolling Road and don't look for pedestrians in the crosswalk.
- Path needs further separation from the roadway and better access to the bus stop. Suggest elevated connection to shopping center.

**Notes:**

- The existing pedestrian and bicycle paths are in very bad disrepair. No one seems to take care of them. They need to be wider, too.
- On-street bike lanes would be too dangerous.
- Snow was piled on ADA ramps this winter.
- Would like a continuous bike path the full length of this corridor, to inside the beltway.

**Priority Pedestrian Crossing Locations:**



 Crossing to Kings Park Shopping Center

 Crossings to three park & ride locations

 Crosswalk at Olney Lane (does not exist today)

**Notes:**

- The wider we make Braddock Road, the more difficult it will be to cross. At minimum, maintain the medians as refuge points.
- There are no safe crossings today. It is difficult to get to the bus stops.
- Suggest pedestrian bridges.
- Generally stay on one side of Braddock because it's too dangerous to cross.
- Would rather have pedestrian and bicycle improvements than a road widening. The traffic is not bad if you live here. Already close to 495, so the roadway improvements really only serve those passing through.
- Create intersections where all the traffic stops for pedestrians. Should not have to push button to get the pedestrian crossing signal. There should be a crosswalk for pedestrians everywhere that there is a car signal. Create safety islands.
- Consider a neighborhood circulator instead of pedestrian bridges.
- Consider the needs of the aging and mobility impaired populations.

### Station 6: Transit Center

Please use a dot sticker to indicate the site layout(s) that you prefer at this time.

Location 1	Northern Virginia Training Center Western Site	40
Location 2	Northern Virginia Training Center Eastern Site	4
Location 3	Kings Park Shopping Center	7
Location 4	Morrisette Drive	2
Location 5	Wakefield Park	5
No Build		4
<b>Total</b>		<b>62</b>

- There was one dot representing a desire for a transit center at George Mason.
- There was one dot representing a desire for a transit center at Wakefield Park, but located along Braddock replacing the parks service building.
- There was one dot randomly placed in a neighborhood by someone opposed to all centers. It will be considered a no build.

### Station 7: Study Options/Tool Box

Please use a dot sticker to indicate the examples of facilities that you prefer.

#### Pedestrian Accommodations - Dot Votes

Mixed-Use Path (Philadelphia)	10
Pedestrian Bridge (Lynchburg, VA)	6
Off-Road Bicycle Path (Bethesda)	6
Pedestrian Bridge (Ohio to Erie Trail)	6
Pedestrian Bridge (Farmville, VA)	2
Pedestrian Signals (DC)	2
Pedestrian Bridge (Falls Church)	2
Crosswalk (Braddock Road & Union Mill Rd)	0

### Station 8: Submit Your Comments (Survey Responses)

#### Survey

There were 63 responses to the survey completed at the meeting. Other responses may be received by mail.

**Do you support improvements to Braddock Road?:** 27 respondents said “Yes.” Based on comments, an additional 5 respondents support improvements (generally, these respondents are in support if the improvements are only pedestrian and bicycle improvements).

**Do you support a Transit Center along the corridor?:** 20 respondents said “Yes.” This includes three respondents who did not choose yes or no, but who said only “not King’s Park,” which is understood to mean, “yes, but not King’s Park.”

**Do you currently park along the study corridor for carpooling or transit access?:** Two (2) respondents said “Yes.”

**Do you live near the project? In which neighborhood?:** Nearly all (60) respondents said “Yes.”

Neighborhood	Count
Long Branch	7
Dunleigh	6
Canterbury Woods	5
Stone Haven	4
Kings Park	3
Woodhurst	3
Wakefield Chapel Rd	2
Lake Braddock	2
The Elms	2
Signal Hill Estates	2
Southport	2
Croftwood	2
Oak Hill	2
Ravensworth	2
Woodland Way	1
Red Fox Forest	1
Springbrook Forest (off of Woodland Way)	1
Laurel	1
Danbury Forest	1
Summit South	1
Mantua	1
Surrey Square	1
Briarwood	1

### Comments on Survey Forms

These responses are coded by (1) comments about improvements, (2) comments about a transit center, and (3) other comments. Some comments have been edited for length, spelling, and grammar.

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#### Comments about improvements

- Adding lanes requires adding signals at each intersection, negating any improvements in traffic flow. Without additional lights there will not be left turns into neighborhoods.
- Will bring more traffic.

- The proposal being offered would not be improvements!
- Widening it with HOT lanes will only add to the congestion.
- No HOT lanes! Already difficult to cross the road for the bus stop at King David/Dunleigh and Braddock. More lanes will discourage bus riders.
- Only 10% of those surveyed felt that improvements were needed.
- Improvements should be focused on quality of life - transit, walking, biking all need to be considered. To me, HOT lanes make no sense for Braddock - HOV possibly. A safe left turn onto Danbury Forest from Braddock Rd should be an absolute requirement.
- I am against the expansion of Braddock Road. This will turn our neighborhood into a turnpike.
- No HOT lanes or HOV lanes. No need to waste money on [illegible] lanes.
- Especially improvements for pedestrian access/movement across Braddock Road.
- Address the need for pedestrian bridges and better turn lanes.
- No HOT on Braddock - only benefits those with money. 70% of people drive solo!
- Timing the traffic lights along Braddock would help, as well as additional general purpose lanes. HOV/HOT lanes for such a small stretch of road seems silly because most people will continue to drive alone and shouldn't have to pay. General lanes will help everyone.
- How can HOT lanes or HOV lanes help when there are so many traffic lights that impede traffic flow?
- It would be great to have a dedicated bus lane going east - but no new lanes for cars.
- Braddock is an alternate highway from Centerville and Manassas to the Beltway. 66 and 95 are almost impassable and thousands transit Braddock instead. Widening Braddock exacerbates the problem by encouraging more traffic. More traffic reduces our neighborhood quality of life, increases danger to cars, bikes, and pedestrians, and lowers our home values and quality of life.
- No HOT/HOV lanes or a transit center! Please make the neighborhood more pedestrian friendly.
- The actual thoughts of residents must be acknowledged and taken into account. Nobody wants the transit center or HOT lanes, which cost a fortune for access that's due to the neighborhood. Respect our thoughts and please put in pedestrian bridges. Please work on improving traffic lights now.
- No HOT lanes, no HOV lanes. Possibly add a lane.
- What's the purpose of widening Braddock Road when the chokepoint will remain 495?
- Widening a road is not a solution to traffic congestion. In reality, you are building a larger pipe - which draws more water, or in this case, more traffic. What it will do is cause bigger traffic jams. Widening a two-mile stretch of Braddock Road is not a solution. Recommend: No build.
- I would like to see a continuous bike path along Braddock to get me from my home to inside the beltway into Alexandria.
- No HOV lanes - general purpose only.
- sidewalks, bikes, safe crosswalks, and more parking to do carpool.
- Not if increased lanes create induced demand, leading more people to drive more often.
- Depends - not HOT lanes - keep green, residential look.
- Perhaps only general use widening and improving signals.
- Every academic study re: wider roads shows one thing: If you build it, they will come! This will not improve anyone's commute. It will just send more cars through the area. It will lower property values for residents while just sending more cars through. An HOT lane will allow some to save time but this means theft of property values to enrich those investors.
- I believe the overall volume of cut-through traffic (eastbound from points west in the AM), westbound from points east (bail-out traffic from the Beltway) is highly encouraged to increase by your "improvements." Are any of the committee members local (study area) owners? This will become the new Route 28.
- Widening Braddock will cause problems with the HOV lane for surrounding communities, as it will be harder to exit and enter those communities and it will cause overflow traffic to spill on side roads like Rolling and Burke Lake, causing congestion and drive through in that community. [I live in] Woodhurst - off Rolling Rd - right now hard enough to take left or right onto Rolling Rd from Kenilworth.
- You'll be removing even more trees, so aesthetic and more deer in neighborhoods. Turn Braddock road into the ugly/community dividing barrier that is now Tyson's Corner. You're just making a long parking lot (Braddock Rd) into a wider parking lot - the time it takes to exit onto the Beltway won't change so there is no benefit. Concern about HOT sending money to off-shore entities (Transurban).

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**Comments about transit center**

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- Only at NOVA training center
- Need to locate Center west of 123 if you do it
- Increase traffic
- Traffic congestion - this garage just adds to confusion
- N VA training center area
- Not so close to the Beltway - should be where the people who are coming to Braddock live - Centreville? Any transit center that doesn't accommodate 4,000-5,000 cars is a waste of money. The transit center should be located further west on Braddock, i.e., maybe beyond Rt 123. The location at Braddock & Burke Lake Rd is too small and too close to the Beltway to be helpful.
- Not in the stretch between Guinea and the Beltway. Transit parking at Kings Park would be nuts. Not enough space for a useful amount of commuter parking, and it will adversely impact ability to use Giant, CVS, restaurants there.
- It will contribute to further congestion.
- Unnecessary
- A transit center will increase neighborhood traffic and congestion. A center will draw traffic from the west and make the current situation worse.
- Why are we pretending a transit station is a good idea? Please stop pretending this (and the notion about buses) is valued.
- I am extremely opposed to transit center at Kings Park. This will ruin the quality of life in the area. Either farther out or near the Beltway (Wakefield).
- Transit center = more traffic/parking issues (especially if at Kings Park or Wakefield Park)
- An ugly transit on Braddock is a bad idea.
- Keep cars out of Kings Park - have transit center at Old Burke Giant [or] Braddock Road [?] center (across from Cemetery)
- Will traffic back up on Rolling Rd trying to enter the traffic center (transit)?
- Putting in a transit station/buses will not get nearly as many people off the road as suggested. We don't need buses idling. Really, no transit station.
- Horrible, no!
- Transit center is unnecessary, provides no benefits to local communities. Will not increase bus usage.
- I am in favor of a transit center at the Kings Park Shopping Center.
- I do not think there is any room for a transit center at Kings Park. If placed there, the number it would service would be minimal, but the negative impact would be huge.
- No transit center at Kings Park
- Not at King's Park
- Not at King's Park. Outside 123
- Not at King's Park. Three of four proposed transit centers seemingly would increase traffic on Braddock Rd to get there. This includes Kings Park site. The Kings Park site would also seem to have the most deleterious effect on neighborhoods in terms of noise. It is surrounded by houses whereas other 3 sites don't seem to be. Traffic is not the only consideration.
- Farther west along Braddock and along Rolling Rd
- Not in Kings Park - select another site. Though I do support public transit.
- But not at Kings Park! Kings Park transit center smells political - community objects. Drop it. Do not spend time/money to study. Too few cars can park. High land price. Something is "funny" here.
- A transit center would totally destroy our suburban neighborhood.
- Not willingly. Has any consideration been given to a transit center location at Port Royal Road on the left side of the industrial area (where the old Shenandoah's Pride Plant used to be)?
- Not large enough to accommodate the parking required. Awful location for a bus transit site! NoVA training center is bigger and provides more space for parking and commuters than King's Park.
- Kings Park transit center is a bad idea. New Giant has limited parking and will draw more customers. Burke Lake Rd coming to Braddock is already heavily congested.
- I am a realtor with a client selling almost 5 acres of land that sides to Fairfax County Parkway and Braddock Road. Would require rezoning, but an ideal location. 12208 Braddock Rd, Fairfax.

- The proposed parking at Kings Park won't work. Traffic on Burke Lake Rd and Braddock is already very heavy - adding more traffic for a small (210) parking area will only worsen that congestion. Alternative should be Braddock west of 123. Have another west on Burke Lake Rd. Spot at Wakefield won't help Braddock Road traffic - it may even increase congestion. A [illegible] on 236 will help to siphon some traffic off Braddock Rd. No multiple story parking garage on Braddock Rd!
- Would bring more traffic. [King's Park?] Transit center is a bad idea; that part of the shopping center is already very crowded.
- If you build it, they will come - and all those folks west of here need to accept some of the bad stuff. Put the transit center out there - they don't need to drive here and park - only saves traffic on the Beltway. Doesn't make our driving any easier!

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#### Other comments

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- Survey should be reopened and better publicized. None of my friends or neighbors knew of its existence. Data analysis of the survey should be analyzed based on where the respondents live. This project has the potential to turn my community into a commuter transit point, adding to noise and air pollution, and significantly adversely impacting the quality of my life as well as my life's investment in a home. My opinion of this project should therefore have a greater weight in the decision making process than the opinion of individuals who purchased homes in the far reaches of the County and now find it's taking them too long to get to work.
- Have you explored expanding Old Keene Mill Rd, or Little River Turnpike?
- Keep local service into subdivisions. People drive solo because transit travel triples commute time. Getting to Wakefield is already a challenge! Fix pot holes in existing roads (Burke Lake Rd, Prosperity Rd)
- Study on timing the lights down Braddock Rd. (computer controlled) like Columbus, OH does.
- Bury utility lines along Braddock to compensate residents for increasing lanes. There is inadequate water runoff management for the existing lanes of Braddock Rd, at least near Guinea Rd.
- All assumptions must be documented and included in the presentation of the study recommendations to the public. Why can't the county take a broader perspective and study/develop a plan for the entire Braddock Road corridor from Route 28 to I-495? I cannot imagine how any incremental fix within this study area will have any meaningful impact that could possibly justify the cost.
- I have been involved in a carpool for the last 20 years. We are now gathering at Parkwood Baptist Church. Having a place for riders to gather and park is essential. Can the church parking lots be brought into the plan?
- I would like to see data from the survey about where respondents live. I don't think our neighbors bordering Wakefield Chapel Rd knew about the survey or appreciated the impact of the proposals in our area. If not too late, can the survey be sent to this area?
- Is there a measure of effectiveness associated with the impact of the project on home values? Is there an option in any of the planning for two left turn lanes into Wakefield Chapel Rd?
- A major concern is how you will consider human behavior. Just because you change some road features does not mean people will react the way you expect them to. For example, the I-95 HOT/HOV lanes have not alleviated the daily rush hour congestion - in fact, it seems to be worse.
- Please look into increasing transit options through more bus stops, more bus routes, and just generally more reliable transit with expanded hours. If there is no sidewalk to allow people to walk to bus stops (new or current), then add that before adding a transit center that increases traffic from other areas. Also funding for sidewalks should come from the county, not homeowners directly.
- Recommend spending money to subsidize buses that run more frequently to more destinations (like Europe). Use information available on most common destinations and make bus service available directly to those locations, not a transfer point. For example, Tysons, Old Town, Bethesda.
- Braddock Road runs through many neighborhoods and does not need to be a major commute route for those who choose to live in less expensive homes far from where they work.
- After Braddock was widened, more traffic flowed into the area. Resurfacing Rolling Rd is more important than this.
- Look beyond the study area to assist solution to Braddock Road congestion. Real congestion is now focused at GMU, from Sideburn Road to Route 123. Solve that problem. Build a pedestrian bridge over Braddock from campus to university mall. Pedestrian (student) crosswalks freeze Braddock Road for 45 seconds.
- Do not invite more commuters through our neighborhoods! Do not put commuter infrastructure in our

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neighborhoods!

- Need pedestrian crossover from Red Fox Drive to Kings Park.
- Please provide more detailed design options. Even if these are only ideas, it is better to see more options to vote on. 1-Transit Center at Kings Park, 2-Transit Center at Ox Rd (123), 3-Transit Center at Shirley Gate intersection. Put in pedestrian overpass at Wakefield Park and two or three other locations. Raise the gas tax.
- The large portion of cars coming down Braddock and Burke Lake Road are coming from communities west of Route 123. Inside 123 has essentially been "built-out" for the last 10+ years. Given that increases in traffic are coming from west of 123, why bring those commuters the whole way into Kings Park area before their commuter alternative is available? If the commuters on Burke Lake Rd want a commuter alternative, they all pass within the VRE close by (just a right turn inbound). I don't see many taking the VRE option.
- Not interested in a transit center - the area is a "bedroom community" - we need pedestrian improvements - walking/bike lanes, safe crossings at main intersections. Keep weed/grass trimmed. Set traffic lights to improve flow. Proposed plans will destroy the current desired atmosphere - safe, convenient. Should not encourage people to use and add to the already over-congested road. Not to mention the effect on the environment.
- This gross incompetence. First remove the toll road exit and replace the missing clover leaf. This will greatly improve traffic on Braddock Road. Second, bus carpool lanes never improve traffic. They just screw up normal traffic for the advantage of a few.
- Must provide lights for south side developments and church to [illegible] between Rolling and Guinea.
- Please also consider where the world will be transit and fuel-wise from 2025 forward.
- Please look at reality. People do not walk along Braddock. People like their cars and will not take public transit.
- Having lived through the last two Braddock Road projects, I'm not sure what the benefits will be!
- I love walking to the library/zinga/grocery and I've love to do so easily, safely, and quickly - please! Put in a bridge. I'm very concerned about noise, aesthetics, and actual change. Designating a land for the small percentage of people who use the bus / dragging more people in will not improve our roads. Please don't make us pay to live our lives day to day.
- Buses and carpooling is a tough sell for people who work at locations without bus access or work weird hours.

**Measure of Effectiveness:** Quantitative measure used to compare effectiveness of alternatives in achieving an objective.

- The MOE must be closely related to the objective of the task.
- An MOE must be measurable.
- An MOE must measure to what degree the (real) objective is achieved

An MOE is often a ratio of expected output to input or desired output.

An MOE must have a clear direction – e.g., bigger or smaller is an improvement

For our case, if the objective is to reduce driving commute time on Braddock road, then a good MOE might be the expected time it takes a vehicle to go from the start to the finish of the length of Braddock that we are studying. This can be compared (e.g., difference or ratio) to the time it would be expected to take without the alternative under consideration. The ability to compare it to this baseline is useful when we ultimately consider cost (in other words, is the improvement worth the cost, which is a cost-effectiveness MOE).

**Measures of Performance (MOP)** provide indications as to why MOEs are what they are. These can be the expected wait times at different intersections, or queuing at turn points. In of themselves they do not have a lot of meaning, but when examined as a cause of an MOE's value they can suggest where improvements can be made that result in an improved MOE value.

Recommendation:

- Decide on high level objectives of the set of potential improvements to Braddock Road. For example:
  - Shorter commute times at rush hour
  - Better quality of life for neighboring communities
  - Increased resident and commuter safety
- Decide on one or two MOEs that (1) are measurable with the model under consideration, (2) would clearly indicate if the objectives are being achieved.
- Develop a set of MOPs for each MOE (not necessarily mutually exclusive) that provide insights that explain the MOE values. It may be necessary to establish some unacceptable “floors” for MOPS.
- Model the baseline (no improvements), then each alternative and compare MOEs and examine MOPs
- Determine whether excursions (new alternative) are needed
- Conduct sensitivity analysis for key parameters/assumptions

*April 1, 2015*  
*Braddock Road Multimodal Study*  
*Fairfax County, Virginia*

## ***Roadway Measures of Effectiveness***

### **Qualitative Measures**

- **Aesthetic Opportunities** – Availability for screening or landscaping enhancements
- **Ease of local access** – does the alternative facilitate community access to the road?
- **Community cohesion** – Will the alternative enhance or erode the quality of the community?
- **Non-motorized mobility** – Will the alternative provide better access and circulation for pedestrians and bicycles?
- **Crashes/Year** – this will be a qualitative assessment of whether the suggested improvements will likely lower or increase potential crashes.
- **Noise** – does the alternative have the potential to improve or degrade the noise levels felt by those adjacent to the corridor? (Note: this study will not do a quantitative analysis of these measures.)
- **Pedestrian Safety** – will the alternative improve safety to transit bus stops and school bus stops by providing improved pedestrian paths?

### **Quantitative Measures (for AM, or PM or peak hour or peak period or daily?)**

- **Travel Time (minutes)** - Travel time along different segments of the corridor
- **Intersection delay (seconds/vehicle)** – This metric will evaluate the delay per vehicle for each intersection and movement along the Braddock Road corridor
- **Intersection Queue Length (feet)** – This metric will evaluate the queue length for each movement at each intersection along Braddock Road.
- **Person Trips Processed (each)** - This metric combines transit, HOV, SOV, bike, ped, etc., by computing the completed number of completed trips within the study area (e.g. a completed trip may be defined as traversing the entire Braddock Road corridor within the study area)
- **Total Distance Traveled in Vehicle Miles (VMT)** – This will be measured as the total distance traveled by vehicles within the network and broken into SOV, HOV, and Transit vehicles.
- **Fuel Consumption (kg)** – This will measure the approximate fuel usage of vehicles using the corridor and can be used as an indicator for congestion as greater usage is usually attributed to lower speeds and more congestion.
- **Latent Demand / Denied Entry (veh)** – This metric measures the number of vehicles which wish to utilize the corridor from a demand standpoint but are unable to as a result congestion.
- **Public Transit Waiting Time** - This is a VISSIM output and can be somewhat misleading at times, but filtered properly can be an indication of how much transit might run behind schedule as a result of congestion

- **CO2 Emissions (kg)** – This is one of two potential metrics which can serve as a proxy for Air Quality. This measure is a direct output from VISSIM and measures the estimated CO2 emissions of the vehicles in the model based on the emissions modules contained within VISSIM.
- **NOx Emissions (kg)** - This is one of two potential metrics which can serve as a proxy for Air Quality. This measure is a direct output from VISSIM and measures the estimated nitrous oxide emissions of the vehicles in the model based on the emissions modules contained within VISSIM.
- **Right-of-Way Impacted (acres)** – This will measure acres of impacted rights-of-way associated with roadway and transit expansion.
- **Environmental Impacts** – This metric will address the potential impact to wetlands, streams, wildlife habitat, noise and other environmental quality issues.
- **Construction Cost (dollars)** – Estimated construction cost of the various concepts.

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**May 3, 2015**  
**Braddock Road Multimodal Study**  
**Fairfax County, Virginia**

**Roadway Measures Evaluation**

	Measure	Value	Weight	Rank	Product
<b>Qualitative</b>	Aesthetics		2		
	Community cohesion		4		
	Ease of local access		5		
	Non-motorized mobility		3		
	Pedestrian Safety		5		
	Noise		3		
	Crashes/Year		4		
<b>Quantitative</b>	Travel Time (minutes)	TBD	3		
	Intersection delay (seconds/vehicle)	TBD	3		
	Intersection Queue Length (feet)	TBD	1		
	Person Trips Processed (each)	TBD	4		
	Total Distance Traveled - Vehicle Miles (VMT)	TBD	1		
	Fuel Consumption (kg)	TBD	3		
	Latent Demand / Denied Entry (veh)	TBD	4		
	Public Transit Waiting Time	TBD	4		
	CO2 Emissions (kg)	TBD	2		
	NOx Emissions (kg)	TBD	2		
	Right-of-Way Impacted (acres)	TBD	4		
	Environmental Impacts	TBD	3		
	Construction Cost (dollars)	TBD	3		



June 3, 2015

Braddock Road Multimodal Study

Fairfax County, Virginia

**Roadway Qualitative Measures Evaluation**

Description	Measure	Importance/ Weighting
<b>Aesthetic Opportunities</b>	<ul style="list-style-type: none"> <li>• Availability for screening or landscaping enhancements</li> <li>•</li> <li>•</li> <li>•</li> </ul>	
<b>Ease of local access</b>	<ul style="list-style-type: none"> <li>• Does the alternative facilitate community access to the road?</li> <li>•</li> <li>•</li> <li>•</li> </ul>	
<b>Community cohesion</b>	<ul style="list-style-type: none"> <li>• Will the alternative enhance or erode the quality of the community?</li> <li>•</li> <li>•</li> <li>•</li> </ul>	
<b>Non-motorized mobility</b>	<ul style="list-style-type: none"> <li>• Will the alternative provide better access and circulation for pedestrians and bicycles?</li> <li>•</li> <li>•</li> <li>•</li> </ul>	
<b>Crashes/Year</b>	<ul style="list-style-type: none"> <li>• Is it likely that the suggested improvements will lower or increase potential crashes?</li> <li>•</li> <li>•</li> <li>•</li> </ul>	
<b>Noise</b>	<ul style="list-style-type: none"> <li>• Does the alternative have the potential to improve or degrade the noise levels felt by those adjacent to the corridor?</li> <li>•</li> <li>•</li> <li>•</li> </ul>	

Description	Measure	Importance/ Weighting

**June 3, 2015**  
**Braddock Road Multimodal Study**  
**Fairfax County, Virginia**

## MEASURES OF EFFECTIVENESS RANKING SCALE

### WEIGHTINGS

Task Force members will be asked to determine weightings for both qualitative and quantitative measures. This provides a relative value to the importance of each parameter as they relate to the others. For example, the Task Force might consider that project cost is more important than fuel costs. Therefore, if a 1 to 5 scale is selected, fuel costs might be assigned a weighting of 2, and project cost assigned a weighting of 5.

Measure	Weight	Comments
Most Important	5	Each measure will be assigned a weight as to how important that measure is compared to the others. This scale can be defined by the TF as shown to the left, or can be broader or narrower as desired. This allows the measures that are considered more important by the TF to have more impact on the evaluation made. These weightings should be determined before the evaluation of the alternatives is undertaken.
	4	
Average Importance	3	
	2	
Least Important	1	

### MEASURE RANKING

Measures of Effectiveness (MOEs) are divided into quantitative and qualitative measures. Quantitative measures are those measure that a specific result value can be determined for the measure. Then a ranking is determined from those measures. Qualitative measures are those where the measurement is based on unmeasured preferences. Following is a proposed measurement guide for each of quantitative and qualitative measure:

#### Quantitative Measures

Measure	Rank	Comments
"Best" 10 percent	5	Each alternative is measured for its impacts. "Best" may be lowest costs, least number of properties taken, etc. The best is given a score of 5; the worst, 1. Within the range, rank is scored based on its relative difference between best and worst.
Better than Average	4	
Average	3	
Worse than Average	2	
"Worst" 10 percent	1	

**Qualitative Measures**

Measure	Rank	Comments
Most meets desired goal	5	Each alternative is measured for its desired result. The alternative that best meets the desired result is given a score of 5; the one that least meets is given a 1. Within the range, rank is assigned based on evaluator’s interpretation of its relative impact
Better than Average	4	
Average	3	
Worse than Average	2	
Least meets desired goal	1	

**SCORING**

After the weights of the measures and the ranking system is developed, each alternative will be scored. The weights remain fixed for all alternatives; the rankings are determined by either quantitative estimates or by the reviewer’s qualitative assessment of how the alternative meets the measure (user input in yellow)

**Alternative 1**

Measure	Value	Weight	Rank	Product
Qualitative Measure 1		2	1	2
Qualitative Measure 2		5	2	10
Quantitative Measure 1	{Value Input}	4	1	4
<b>Total Score for Alternative 1</b>				<b>16</b>

**Alternative 2**

Measure	Value	Weight	Rank	Product
Qualitative Measure 1		2	2	4
Qualitative Measure 2		5	1	5
Quantitative Measure 1	{Value Input}	4	3	12
<b>Total Score for Alternative 2</b>				<b>21</b>

*April 1, 2015*  
**Braddock Road Multimodal Study**  
**Fairfax County, Virginia**

## ***Transit Center Measures of Effectiveness***

### **Qualitative Measures**

- **Proximity to local trip sources** – how well the candidate location serves the demand for passenger service arriving from adjacent neighborhoods, either by motorized or non-motorized travel. This metric will be assisted by the results from the transit survey and determination of which neighborhoods have a higher likelihood to utilize any additional transit facilities along this corridor.
- **Accessibility for non-local commuters** – how well does the candidate location provide access for vehicles accessing the site from areas outside of the study boundary
- **Compatibility with adjacent land uses** – is the land use adjacent to the candidate site compatible with the transit center? Does the existing zoning allow the development of the transit site as envisioned?
- **Transit system operating efficiency** – a measure of ease of ingress/egress to transit facility based on number of turning movements, traffic signal operations, etc.
- **Safety of accessing site** – the ability of a transit vehicle to access a site with fewest conflicts. This is a measure of conflicts with opposing movements, left-turn across oncoming traffic and other movements within the vicinity of the candidate transit center site.
- **Safety of pedestrian access to site** – the ability of pedestrians and bicycles to access the site utilizing sidewalks/paths and access to signalized intersections for crossing major roads.

### **Quantitative Measures**

- Site area (acres)
- Number of bus bays provided
- Number of parking spaces provided
- Property Costs (land/right-of-way/utility relocations)
- Cost per parking space provided
- Off-site improvement costs (turn lanes, median modifications, signalization)
- Construction Cost
- Transit Travel time to/from I-495
- Average Patron Travel Time
  - Local trips via SOV
  - Local trips via walking/cycling
  - Commuter trips (originating outside of study area)
- Diverted trips from SOV
  - Local users
  - Commuter users

- Trip cost – sum of person-trip cost for all users, inclusive of cost of SOV operation, transit fares and unrecovered operating cost of transit system, tolls

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**May 3, 2015**  
**Braddock Road Multimodal Study**  
**Fairfax County, Virginia**

**Transit Center Measures Evaluation**

	Measure	Value	Weight	Rank	Product
<b>Qualitative</b>	Aesthetics		2		
	Community cohesion		4		
	Ease of local access		5		
	Non-motorized mobility		3		
	Pedestrian Safety		5		
	Noise		3		
	Crashes/Year		4		
<b>Quantative</b>	Travel Time (minutes)	TBD	3		
	Intersection delay (seconds/vehicle)	TBD	3		
	Intersection Queue Length (feet)	TBD	1		
	Person Trips Processed (each)	TBD	4		
	Total Distance Traveled - Vehicle Miles (VMT)	TBD	1		
	Fuel Consumption (kg)	TBD	3		
	Latent Demand / Denied Entry (veh)	TBD	4		
	Public Transit Waiting Time	TBD	4		
	CO2 Emissions (kg)	TBD	2		
	NOx Emissions (kg)	TBD	2		
	Right-of-Way Impacted (acres)	TBD	4		
	Environmental Impacts	TBD	3		
	Construction Cost (dollars)	TBD	3		

**Qualitative Measures**

- **Proximity to local trip sources** – how well the candidate location serves the demand for passenger service arriving from adjacent neighborhoods, either by motorized or non-motorized travel. This metric will be assisted by the results from the transit survey and determination of which neighborhoods have a higher likelihood to utilize any additional transit facilities along this corridor.
- **Accessibility for non-local commuters** – how well does the candidate location provide access for vehicles accessing the site from areas outside of the study boundary
- **Compatibility with adjacent land uses** – is the land use adjacent to the candidate site compatible with the transit center? Does the existing zoning allow the development of the transit site as envisioned?
- **Transit system operating efficiency** – a measure of ease of ingress/egress to transit facility based on number of turning movements, traffic signal operations, etc.
- **Safety of accessing site** – the ability of a transit vehicle to access a site with fewest conflicts. This is a measure of conflicts with opposing movements, left-turn across oncoming traffic and other movements within the vicinity of the candidate transit center site.
- **Safety of pedestrian access to site** – the ability of pedestrians and bicycles to access the site utilizing sidewalks/paths and access to signalized intersections for crossing major roads.

### Quantitative Measures

- Site area (acres)
- Number of bus bays provided
- Number of parking spaces provided
- Property Costs (land/right-of-way/utility relocations)
- Cost per parking space provided
- Off-site improvement costs (turn lanes, median modifications, signalization)
- Construction Cost
- Transit Travel time to/from I-495
- Average Patron Travel Time
  - Local trips via SOV
  - Local trips via walking/cycling
  - Commuter trips (originating outside of study area)
- Diverted trips from SOV
  - Local users
  - Commuter users
- Trip cost – sum of person-trip cost for all users, inclusive of cost of SOV operation, transit fares and unrecovered operating cost of transit system, tolls



June 3, 2015

Braddock Road Multimodal Study

Fairfax County, Virginia

**Transit Center Qualitative Measures Evaluation**

Description	Measure	Importance/ Weighting
<b>Proximity to local trip sources</b>	<ul style="list-style-type: none"> <li>• How well the candidate location serves the demand for passenger service arriving from adjacent neighborhoods, either by motorized or non-motorized travel.</li> <li>•</li> <li>•</li> <li>•</li> </ul>	
<b>Accessibility for non-local commuters</b>	<ul style="list-style-type: none"> <li>• How well does the candidate location provide access for vehicles accessing the site from areas outside of the study boundary</li> <li>•</li> <li>•</li> </ul>	
<b>Compatibility with adjacent land uses</b>	<ul style="list-style-type: none"> <li>• Is the land use adjacent to the candidate site compatible with the transit center?</li> <li>•</li> <li>•</li> <li>•</li> </ul>	
<b>Transit system operating efficiency</b>	<ul style="list-style-type: none"> <li>• A measure of ease of ingress/egress to transit facility based on number of turning movements, traffic signal operations, etc.</li> <li>•</li> <li>•</li> <li>•</li> </ul>	
<b>Safety of accessing site</b>	<ul style="list-style-type: none"> <li>• The ability of a transit vehicle to access a site with fewest conflicts</li> <li>•</li> <li>•</li> <li>•</li> </ul>	
<b>Safety of pedestrian access to site</b>	<ul style="list-style-type: none"> <li>• The ability of pedestrians and bicycles to access the site utilizing sidewalks/paths and access to signalized intersections for crossing major roads</li> <li>•</li> <li>•</li> <li>•</li> </ul>	

Description	Measure	Importance/ Weighting



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