



County of Fairfax, Virginia

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# Dulles Corridor Air Rights Study Investigation

Fairfax County Board of Supervisors  
Transportation Committee

December 10, 2013



## County of Fairfax, Virginia

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On March 19, 2013 the Fairfax County Board of Supervisors asked FCDOT staff to address the following at a Board Transportation Committee Meeting:

- **Prepare a very brief presentation on air rights.**
- **Obtain an estimate of the cost of a feasibility study.**



## Metropolitan Washington Airports Authority (MWAA) Study

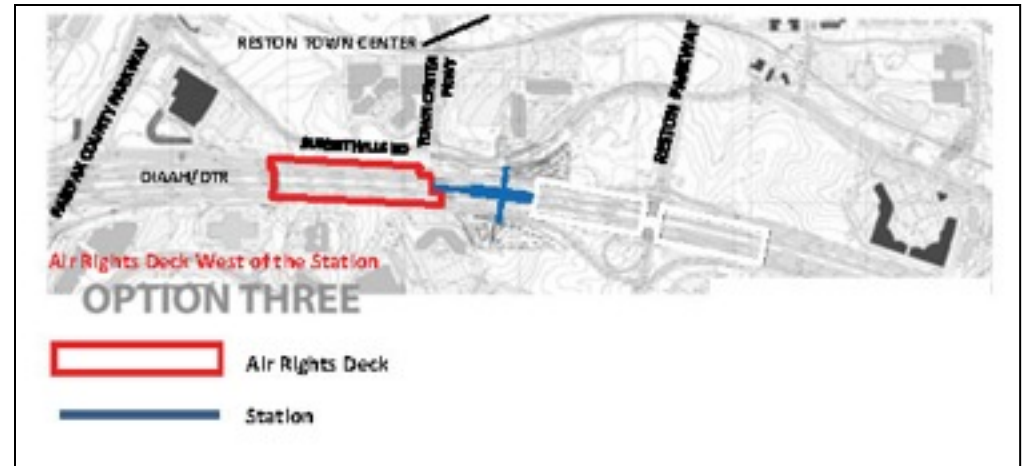
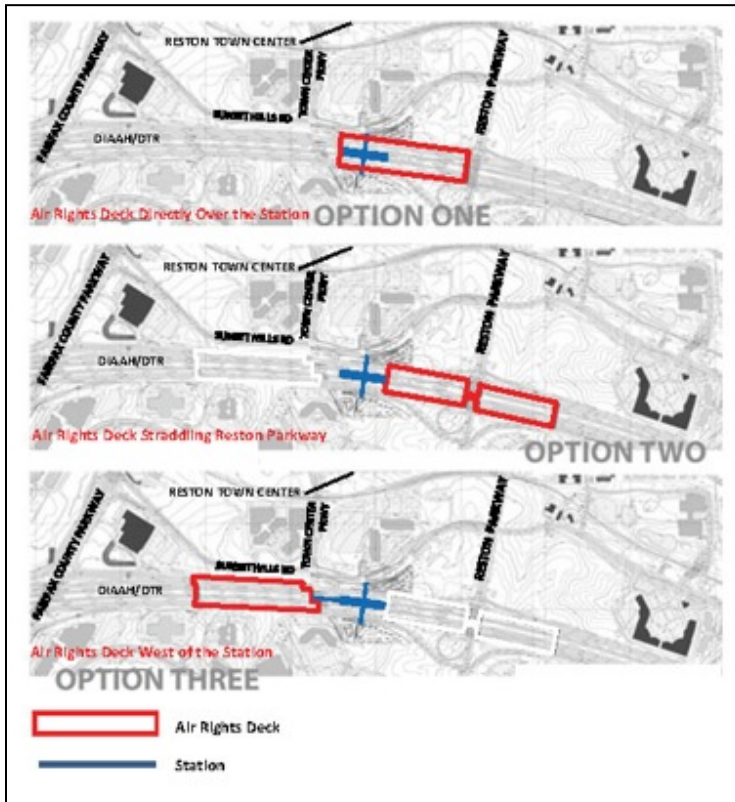
- In April of 2010, MWAA began a study of the engineering requirements and costs associated with incorporating plans to build mixed-use developments atop the toll road as a revenue generator.
- Kimley-Horn and Associates and The Advisory Group were selected to undertake the study.
- Cost of study was approximately \$150,000.
- This study focused on the Reston Town Center Station as a test case.
- The findings of this effort were initially presented to MWAA on November 8, 2010.



Metropolitan Washington Airports Authority Study Cont'd

Three location options were considered.

Option three was selected for further analysis.



Approximate 580,000 sf platform

Source: MWAA Study



## Metropolitan Washington Airports Authority Study Cont'd

### Estimated Foundation Cost

Includes initial investment in air rights deck foundation and station modifications

- If constructed prior to rail opening: \$33.9 M
- If constructed after rail opening: \$60.0 M

Note: Cost estimate for construction prior to rail opening assumes that a 60' span column support can be used. If construction commences after rail opening, a 150' span column support will be necessary. Costs are in 2014 dollars.



**Metropolitan Washington Airports Authority Study Cont'd**

**Reston Town Center Platform**

- **Buildable square feet: 4,000,000 sf** (Intended to achieve the highest Internal Rate of Return possible)
- **Assumed mix of uses:**
  - Retail: 90,000 sf
  - Office: 1,720,000 sf
  - Hotel: 390,000 sf
  - Residential-rental: 900,000 sf
  - Residential-sale: 900,000 sf
- FAR required for build-out: 6.9 (much higher than likely)



**Metropolitan Washington Airports Authority Study Cont'd**

**Estimated Construction Costs**

- Total development costs (w/o carrying costs):
  - Foundation - \$33.9 M
  - Infrastructure - \$121.3 M
  - Third party development - \$1.314 B
  - Total \$1.469 B



# Metropolitan Washington Airports Authority Study Cont'd

## Land Cost vs. Platform Cost

Average land cost near Northern Virginia Metrorail Stations: \$130.89 psf  
(Includes some land costs in Tysons Corner)

Estimated cost for Reston Town Center Metrorail Station Platform: \$265.98 psf





Metropolitan Washington Airports Authority Study Cont'd

Silver Line Development Potential in Fairfax County

Station Name	1/8 Mile Developable Acres	1/4 Mile Developable	Allowable FAR	Square Feet within 1/8 mile	Square Feet within 1/4 mile
McLean	23.50	71.20	4.0	4,094,640	12,405,888
Tysons Corner	22.10	70.30	4.0	3,850,704	12,249,072
Greensboro	24.70	74.10	4.0	4,303,728	12,911,184
Spring Hill	22.60	81.90	4.0	3,937,824	14,270,256
<b>Tysons Corner Subtotal</b>	<b>92.90</b>	<b>297.50</b>	<b>4.0</b>	<b>16,186,896</b>	<b>51,836,400</b>
Wiehle - Reston East	14.70	70.70	4.0	2,561,328	12,318,768
Reston Town Center	11.60	65.30	4.0	2,021,184	11,377,872
<b>Reston Area Subtotal</b>	<b>26.30</b>	<b>136.00</b>	<b>4.0</b>	<b>4,582,512</b>	<b>23,696,640</b>
Herndon (North)	9.10	35.40	2.5	990,990	3,855,060
Herndon (South)	8.10	36.30	2.5	882,090	3,953,070
Innovation Center(North)	6.10	34.20	2.8	744,005	4,171,306
Innovation Center(South)	7.10	37.10	2.8	865,973	4,525,013
<b>Herndon Area Subtotal</b>	<b>23.30</b>	<b>105.90</b>	<b>2.6</b>	<b>2,617,085</b>	<b>11,979,436</b>
<b>Grand Total</b>	<b>142.50</b>	<b>539.40</b>	<b>3.8</b>	<b>23,386,493</b>	<b>87,512,476</b>

- Over 87M sf of development potential on the land within 1/4 of a mile of Silver Line Metrorail Stations without air rights development.



**Metropolitan Washington Airports Authority Study Cont'd**

## Challenges to Air Rights Development in Reston

- Land lease: Property is leased from the federal government by MWAA through 2067. Even if the lease is extended, many private developers would not want to invest nearly \$1.5 billion into indirectly leased land.
- Development rights: The federal statute that authorizes the land lease requires property to be used for “airport purposes”. These purposes are defined as for “aviation business or activities, activities necessary or appropriate to serve passengers or cargo, or nonprofit, public use facilities that are not inconsistent with the needs of aviation”.



## Challenges to Air Rights Development in Reston (Cont'd)

- Cost/FAR:
  - 4 million square feet of development at Reston Town Center Station requires a 6.9 FAR.
  - Area FAR's: Ballston is 6.0 to 6.5. Tysons is 4.0 to 6.0.
  - The cost of building the platform is estimated at over twice the average of recent land sales near Northern Virginia transit facilities.
- Comprehensive Plan: Includes enough planned residential and office in the Reston Town Center Station area until 2040, based on GMU forecasts. In total, the Fairfax County Silver Line station areas have development potential for over 87 million square feet within a ¼ mile distance of the stations. The Comprehensive Plan currently has no density allocated over the Dulles Toll Road. Transportation studies supporting the Comprehensive Plan did not assume additional density over the Dulles Toll Road.



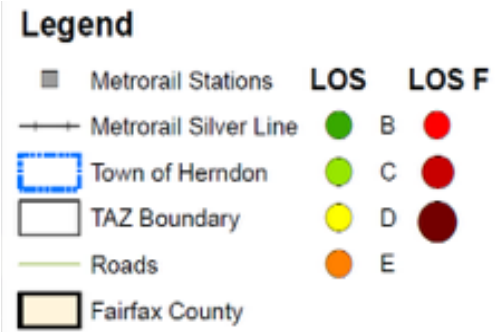
- Conducted for Comprehensive Plan Amendments
- Forecasted Conditions for Comprehensive Plan Build-Out (2030) – Major intersections near Dulles Toll Road are projected to have highest level of delay in the future.



# PM Weekday Peak Intersection Level of Service at Proposed Comprehensive Plan Build-Out with Mitigation (No Platform Development Assumed)



1 Centreville Rd at Sunrise Valley	13 Reston Pkwy at DTR EB on/offramp s/ll
2 Centreville Rd at DTR EB on/offramp s/ll	14 Reston Pkwy at DTR WB on/offramp s/ll
3 Centreville Rd at DTR WB on/offramp s/ll	15 Reston Pkwy at New Dominion Pkwy
4 Fairfax County Pkwy at DTR EB on/offramp s/ll	16 Reston Pkwy at Sunrise Valley
5 Fairfax County Pkwy at DTR WB on/offramp s/ll	17 Reston Pkwy at Sunset Hills
6 Fairfax County Pkwy at Spring St	18 Wiehle Ave at DTR EB on/offramp s/ll
7 Fairfax County Pkwy at Sunrise Valley	19 Wiehle Ave at DTR WB on/offramp s/ll
8 Hunter Mill Rd at Sunrise Valley	20 Wiehle Ave at Sunrise Valley
9 Hunter Mill Rd at Sunset Hills	21 Wiehle Ave at Sunset Hills
10 Hunter Mill Rd at DTR EB on/offramp s/ll	22 Centreville Rd at Frying Pan Rd
11 Hunter Mill Rd at DTR WB on/offramp s/ll	23 Centreville Rd at Coppermine Rd
12 Reston Pkwy at Bluemont Way	24 Sunrise Valley Dr at Frying Pan Rd



Source: Dulles Reston Transportation and Land Use Planning Study Final Report



# PM Weekday Peak Intersection Level of Service at Proposed Comprehensive Plan Build-Out with Mitigation

(No Platform Development Assumed)

Reston Area Weekday PM Peak Intersection LOS and Seconds of Delay with Signal Optimization							
#	Intersection	LO	Int. Delay (Sec/	#	Intersection	LO	Int. Delay (Sec/
1	Centreville Rd at Sunrise Valley	F	85	1	Reston Pkwy at DTR EB on/off	C	34
2	Centreville Rd at DTR EB on/off ramp	D	37	1	Reston Pkwy at DTR WB on/off	E	57
3	Centreville Rd at DTR WB on/off ramp	C	25	1	Reston Pkwy at New Dominion	F	83
4	Fairfax County Pkwy at DTR EB on/off	D	43	1	Reston Pkwy at Sunrise Valley	E	79
5	Fairfax County Pkwy at DTR WB on/off	C	30	1	Reston Pkwy at Sunset Hills	F	217
6	Fairfax County Pkwy at Spring Street	C	26	1	Wiehle Ave at DTR EB on/off	C	24
7	Fairfax County Pkwy at Sunrise Valley	D	50	1	Wiehle Ave at DTR WB on/off	D	37
8	Hunter Mill Rd at Sunrise Valley	E	65	2	Wiehle Ave at Sunrise Valley	D	53
9	Hunter Mill Rd at Sunset Hills	D	55	2	Wiehle Ave at Sunset Hills	F	253
1	Hunter Mill Rd at DTR EB on/off ramp	B	18	2	Centreville Rd at Frying Pan Rd	D	36
1	Hunter Mill Rd at DTR WB on/off ramp	F	141	2	Centreville Rd at Coppermine Rd	C	29
1	Reston Pkwy at Bluemont Way	D	40	2	Sunrise Valley Dr at Frying Pan	F	174

Source: Dulles Corridor Study Transportation Study Final Report

- 9 intersections near the Herndon/Reston Metrorail stations will function at a LOS E or F with proposed Comprehensive Plan build-out, without additional development using Air Rights.



## Average PM Peak Weekday Trip Generation for Assumed Mix of Uses

Avg PM Weekday Trip Generation for Reston Town Center Station Platform Development				
Use	SF	Units/ Rooms	Avg PM Peak Hour Weekday Trip Per 1,000 sf gross floor/leasable area, Unit or Rooms	Avg PM Peak Hour Weekday Trips
Retail	90,000	-	5.02	452
Office	1,720,000	-	1.49	2,563
Hotel	390,000	780	0.61	476
Residential-Rental	900,000	900	0.40	360
Residential-Sale	900,000	900	0.38	342
<b>Average PM Peak Hour Weekday Trips For Development:</b>				<b>4,192</b>
<b>Average PM Peak Hour Weekday Trips For Development with 50% Transit Reduction:</b>				<b>2,096</b>

- Assuming a high transit reduction of 50%, this development would produce over 2,000 additional vehicle trips during the PM Peak Hour, adding congestion to already congested roadways.



## Conclusions

- Developing over the DTR will be more expensive than developing on adjacent land.
- Significant potential for additional growth available on land adjacent to the DTR.
- Neither Comprehensive Plan amendments for Tysons or Reston/Herndon assumed development over the DTR.
- Vehicle access to the development over the DTR will be challenging. Even with mitigation measures, area roads will be at or above capacity with Comprehensive Plan development potential, without the additional density associated with air rights development.





## Conclusions (cont.)

- Additional development over the DTR will require additional transportation improvements for which funding will need to be identified.
- The MWAA analysis indicates that developing a profitable Air Rights project in Reston would be economically challenging.
- A Dulles Air Rights Study is estimated to cost between \$150,000 and \$200,000.



- Questions