

Frederick A. Costello
April 25, 2011

Introduction: The purpose of this report is to present an alternative development plan for Reston Metrorail Three-Station Corridor that balances the commercial development with its anticipated number of new jobs with the number of new residential households, thereby mitigating the financial burden on Fairfax County taxpayers.

Summary: The alternative proposed herein, which is based on a just distribution of costs, has the following features:

1. The developer should be required to develop the residential components of the project(s) simultaneously or prior to building the commercial.
2. The higher profits associated with commercial development will provide the incentive for building the full project.
3. Residential development should maintain a ratio of 1.6¹, or fewer, new jobs per new household. If all new development maintains this ratio, although some new infrastructure will be needed, no road enhancement will be needed to accommodate the new construction.
4. Allowing for an average FAR (Floor Area Ratio) that is twice the current value will provide sufficient gross floor area. Allowing for a residential FAR that is greater than commercial will provide the incentive for the developer to build the residential units.

If these conditions are met, by 2050 the total rental income in the corridor will increase by more than a factor of two, as compared to today's rental income, and be more than 50% greater than if all new development meets the maximum allowed by-right (i.e., as currently zoned).

Arlington County followed this same strategy in the Rosslyn-Ballston corridor for the past 20 years, with the exception that the jobs-per-household ratio was 2.5. Arlington's development is frequently cited as a good example of planning and plan implementation.

If the ratio of jobs to households is allowed to exceed 1.6, the roadways must be enhanced. The 1.6 ratio results in an insignificant impact on the existing traffic and, therefore, much of the cost of new infrastructure. If the developers want to exceed this value, they should pay for the infrastructure enhancements. The Comprehensive Plan should not be changed until the design, cost, and funding of the infrastructure are defined, published, and found acceptable to the County citizens.

Discussion: We have chosen as our baseline the GMU Intermediate forecast for 2050². The densities are approximately two times those of GMU 2030. GMU 2050 projects that there will be a demand for 51,918

¹ The value of 1.6 is based on Fairfax County experience and, apparently, national experience on the number of workers per multifamily residence. If the ratio is smaller than 1.6, more people will be commuting out of the corridor. If the ratio is greater than 1.6, more people will be commuting into the corridor. Because there is currently so many more jobs than households, the ratio for new construction could be on the order of 0.5 for the sum of existing and new to be below 1.6. This idealization, which is based on each new resident worker working at one of the new jobs, will surely not be realized, although people taking transit out of the corridor will be at least partially offset by people taking transit into the corridor. The 1.6 value is important primarily to minimize rush-hour traffic. At other hours, the ratio is of much less importance.

² Lisa Sturtevant and John McClain: Forecasts for the Reston/Dulles Rail Corridor and Route 28 Corridor 2010 to 2050. George Mason University Center for Regional Analysis (July 26, 2010)

more jobs in the Reston Metrorail Corridor, above the 82,482 jobs in 2010 (Exhibit 1)³. GMU 2050 also projects that the additional housing demand will be 18,240 units. GMU’s John McClain stated at his Task Force presentation that his past projections for jobs were extremely accurate but that his past projections for households had been low, because he did not expect people to be willing to commute from afar. GMU 2050 projects that, if the housing and jobs demands are exactly met, the number of commuters into the corridor will increase from the present 73,106 to 95,840, a 31% increase, so that the Reston infrastructure would need to be enhanced. Buses and bikers are proposed to offset this increase in automobile traffic, but no analysis has been performed of the mode shares.

Although some Restonians have the (strong) opinion that the jobs-to-household ratio must be the same for each station, we consider all three stations as a unit under the assumption that people can ride the Metrorail between stations to provide the equalization – provided there is little or no charge for such short rides. The analysis herein is certainly valid if balance is required at each station.

Rental rates are approximately \$40 per square foot per year for commercial units⁴. If we assume that each job required 330 sq. ft., as do current jobs in the Reston Town Center, the rental income for each additional job will be \$13,200. For a residence, rental rates are approximately \$24 per square foot per year⁵. If we assume that each rental unit has 1000 sq. ft., as do current rental units in the Reston Town Center, the rental income from each household will be \$24,000. The computed rental income at the end of development is shown in the last line of Exhibit 1 (in millions of dollars per year). We have computed the gross floor areas using the current Town Center values of 1000 sq. ft. per household and 330 sq. ft. per job.

TOTALS	Existing	Zoning Approved	Planned	GMU 2030	GMU 2040	GMU 2050
hh	5,860	8,674	9,797	13,200	18,600	24,100
jobs	82,482	109,124	129,423	107,400	122,600	134,400
jobs/hh	14.1	12.6	13.2	8.1	6.6	5.6
GFA jobs/GFA hh	4.6	4.2	4.4	2.7	2.2	1.8
Avg FAR	0.45	0.61	0.72	0.66	0.81	0.93
Commuters	73,106	95,245	113,748	86,280	92,840	95,840
Rental income	1,229	1,649	1,944	1,734	2,065	2,352

Exhibit 1: Current and Future Jobs and Households along the Reston Metrorail Corridor

A key benchmark is the rental income for “Zoning Approved,” because this is the expected income if no zoning changes are made so that all new construction is done “by right;” that is, according to existing zoning. Notice that, if construction were permitted according to the current Comprehensive Plan or any one of the three GMU forecasts, the rental income would be greater than the “by right” value.

All of the cases listed in Exhibit 1 require enhancement of the transportation systems. Enhancing the transportation systems incurs high costs and high risk. For example, a ubiquitous bus system has been proposed so that traffic does not increase; however, such a bus system is expensive and carries with it the risk that too few will use it.

³ Jobs and household values for existing, zoning-approved, and planned (Comp Plan) were taken from Faheem Darab’s October 2010 presentation to the Reston Task Force.

⁴ <http://www.costar.com/News/Article/In-Reston-One-Spec-Project-Defies-the-Downturn/103967>

⁵ <http://washingtondc.condo.com/ForRent/United-States/District-of-Columbia/Reston-Condos>

As an alternative to the projections of Exhibit 1, we recommend that the Arlington County plan be used, except that all new development have the ratio of jobs to households equal 1.6⁶ (Exhibit 2). No changes will be required to the roadways because there will be, theoretically, no new commuters¹. In evaluating this strategy, we examined three cases:

1. Development to meet the GMU 2030 jobs demand but building more residences than the GMU 2030 residential demand (third from last column in Exhibit 2);
2. Development to meet the GMU 2050 jobs demand but building more residences than the GMU 2050 residential demand (second from last column in Exhibit 2); and
3. Development to meet the GMU 2050 residential demand but building fewer commercial buildings so that the GMU 2050 jobs demand is not met (last column in Exhibit 2). Notice that the rental incomes for all three cases exceed the by-right rental incomes; therefore, all three cases should be attractive to developers. Notice also that, for all three cases, the average FAR (GFA divided by the total land area) is greater than for by-right development.

The development plan with the least risk is the last case (last column in Exhibit 2). The residential demand is met but the commercial demand is not. The other two cases involve more risk because the number of households exceeds the forecasted demand.

	Zoning Approved	Planned	GMU 2030	GMU 2040	GMU 2050	2030 Comm Demand	2050 Comm Demand	2050 Res Demand
Incremental								
hh	2,814	3,937	7,340	12,740	18,240	15,574	32,449	18,240
jobs	26,641	46,941	24,918	40,118	51,918	24,918	51,918	29,184
jobs/hh	9.5	11.9	3.4	3.1	2.8	1.6	1.6	1.6
GFA jobs/GFA hh	3.1	3.9	1.1	1.0	0.9	0.5	0.5	0.5
New totals								
Avg FAR	0.61	0.72	0.66	0.81	0.93	0.78	1.13	0.83
Commuters	95,245	113,748	86,280	92,840	95,840	73,106	73,106	73,106
Rental income	1,649	1,944	1,734	2,065	2,352	1,932	3,113	2,766

Exhibit 2: Jobs and Households under Balanced Development

To reduce the risks of speculating on commercial and residential development, the developer can and should build residential and commercial buildings simultaneously, at the rate of 1.6 jobs per household. Because the profit per square foot is higher for commercial than for residential units, the developer should be given the added incentive to build, if not simultaneously, the residential prior to the residential.

Developers will surely want to maximize rental income; therefore, they will favor the GMU 2050 plan. If the GMU 2050 demand is exactly met, with its greater number of jobs than the households can support, the transportation systems must be enhanced with wider roads, many buses, and many bicycle paths so the 31% increase in commuters can be accommodated. If the developers pay for the enhanced infrastructure, there should be no major objections to following the GMU 2050 forecast – other than the fact that the economic

⁶ The ratio of 1.6 jobs per household is between the 1.3 average in 2009 for all of Fairfax County (see Appendix A) and the value of 2.5 that Arlington County has maintained for new construction in the Rosslyn-Ballston corridor for the past 20 years. Arlington maintained 2.5 by requiring that residential development precede or be simultaneous with commercial development. Arlington allowed higher FAR values for residential than for commercial.

See also Note 1.

system will be less efficient because of the lost time in commuting and the added expense of commuting and parking.

Our proposed balanced development is practical. Arlington County has demonstrated nearly balanced development along the Rosslyn-Ballston corridor for the past 20 years, albeit with a ratio of 2.5 jobs per household. This Arlington County development has been heralded as a great success story.

MWCOG recently issued its Round 8.0 Cooperative Forecast. This forecast, which extends only to 2040, shows approximately the same number of households in 2040 as the GMU 2040 forecast (Exhibit 3a). It lists only 66,000 jobs in 2010, as compared to 81,000 in its Round 7.1 and 72,000 in its Round 7.2. GMU has 82,000 jobs in the corridor in 2010. MWCOG now forecasts only 89,000 jobs in 2040, as compared to GMU's forecast of 122,000. MWCOG's new estimates highlight the risks associated with developing to meet the commercial forecasts rather than the residential, thereby providing an argument in favor of the plan associated with the last column in Exhibit 2; namely, meeting the residential demand while maintaining the 1.6 ratio.

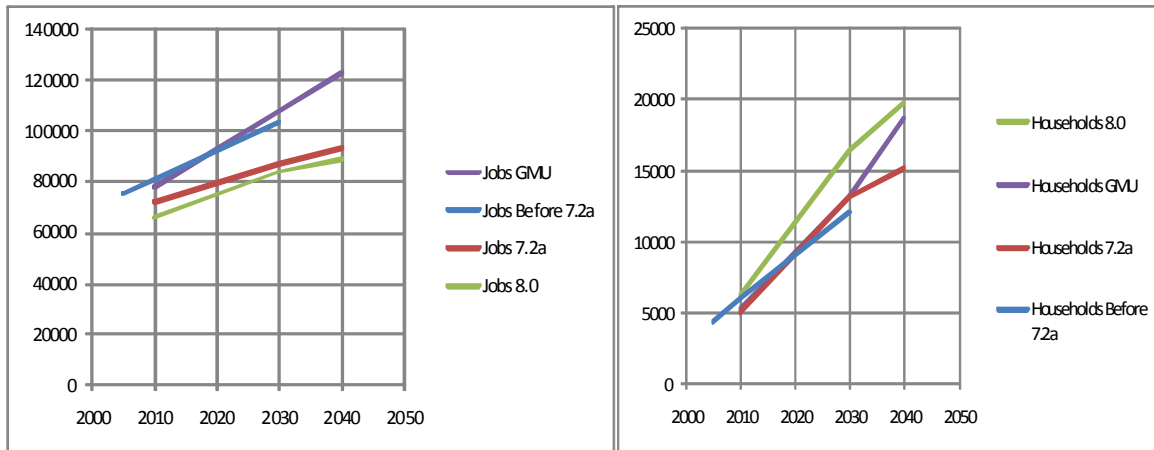


Exhibit 3: Recent Growth Projections: (a) Jobs and (b) Households

Appendix A: Estimating the Jobs per Household in Fairfax County

The number of jobs in Fairfax County was deduced by dividing the 2009 County employment of 32034 employees by the 6.4% of all employees who worked for the County government in 2009 per <http://www.fairfaxcounty.gov/demogrph/gendemo.htm#addl>. This division yields 500,531 jobs. The total number of County employees was calculated by adding 22495 school-system employees per (<http://www.fcps.edu/fs/budget/wabe/2009.pdf>) and 9539 non-school employees per http://www.fairfaxcounty.gov/dmb/archives/budget_archives_2009.htm.

The total of 500,531 agrees with the 576,598 total listed by the Virginia Employment Commission (<http://www.alex.vec.virginia.gov/lmi/pdfs/communityprofiles/5104000059.pdf>) for 2011. The County website lists the employment in 2009 at 571,684, although this figure seems to be the number employed, not the number of jobs. The Fairfax County Economic Development Authority (<http://www.fairfaxcountypeda.org/business-statistics>) states that 51.7% of County residents work in the County. If the 571,684 is the total employed, then 296,000 work within the County. Because people commute from outside the County to fill additional jobs in the County, the number of job positions within the County is still not clearly identified.

The U.S. Census bureau lists 260,241 households earning income within the County, so the number of workers per household is computed to be $500,531/260,241 = 1.92$. The difference between the 1.92 workers per household and 1.3 jobs per household would equal the number of workers per household who work outside of the County if workers did not come from outside the County to work in the County. Because workers do come from outside the County, once again the number of job positions inside the County is uncertain. Our estimate of 500,531 seems to be the best that can be done.

The County web site <http://www.fairfaxcounty.gov/demogrph/gendemo.htm#pop> lists the number of households in 2009 as 384,420.

The ratio of 1.3 jobs per household equals $500,531/384,420$, which is the ratio cited in Footnote 6.