Fiscal Impact of Alternative Development Patterns
Madison Scenario Analysis

Background and Objectives

The connection between land use development patterns and the costs of providing public infrastructure and services has long been a topic of study, particularly since "The Cost of Sprawl: A detailed analysis" was published in 1974. Since that time, dozens, if not hundreds of studies, have been conducted relating to this topic. Most of these have concluded that "smart growth" (that is, more compact patterns of development) is associated with reduced local government spending on a per capita basis relative to sprawl (recognizing that the definition of each of those terms not entirely consistent). Smart Growth America's "Building Better Budgets" report, dated May 2013, summarizes the results of 17 of these studies.

Yet these findings are not often included in the typical fiscal impact analyses done in connection with new development proposals. There are many reasons for this, but the inconsistent methodologies used in the above-referenced studies, as well as the time-consuming data collection efforts they involve, have likely slowed the filtering of these academic findings into the "practice." Instead, most, (though not all) fiscal impact analyses rely on a simple average cost approach, which implicitly assumes that each new resident or job will add the same amount of public costs, regardless of whether they live and work in a sprawling, low-density development, or a high-density walkable urban one.

In connection with a grant from the Department of Housing and Urban Development, Smart Growth America ("SGA") aims to develop a fiscal impact methodology that not only accounts for the increased cost efficiencies associated with denser development patterns, but can also be easily adapted and used by local practitioners across the country. The City of Madison generously agreed to become a case study community in the development of this methodology.

Scenarios

The City of Madison asked SGA to review development plans at 2 different sites. The first, known as the Pioneer District, is the subject of this memo. The Pioneer District is approximately 1,400 acres in size and is largely vacant at present. The City of Madison provided two scenarios for evaluation. The "base scenario" reflects the current plan for the development of the Pioneer District. The second scenario, called "Plus 50" assumes 50% higher density on certain parcels within the District. Note that this scenario results in a different mix of development than the base scenario, meaning that any changes in revenues and costs are not due to changes in density alone but also to changes in the ratio of commercial space to residential space.

Therefore, SGA introduced two additional higher density scenarios, which assume the same development program as the base scenario and "plus 50" scenario respectively, but on approximately 500 fewer acres. They are called the "Compact" and the "Compact Plus 50" scenarios, respectively. Finally, for purposes of comparison, SGA created a "Low Density" scenario, which assumes the same development as the base scenario but on approximately 1,000 acres more. The Low Density scenario, in particular, is purely hypothetical as it would consume more acreage than the Pioneer District contains. Nonetheless these

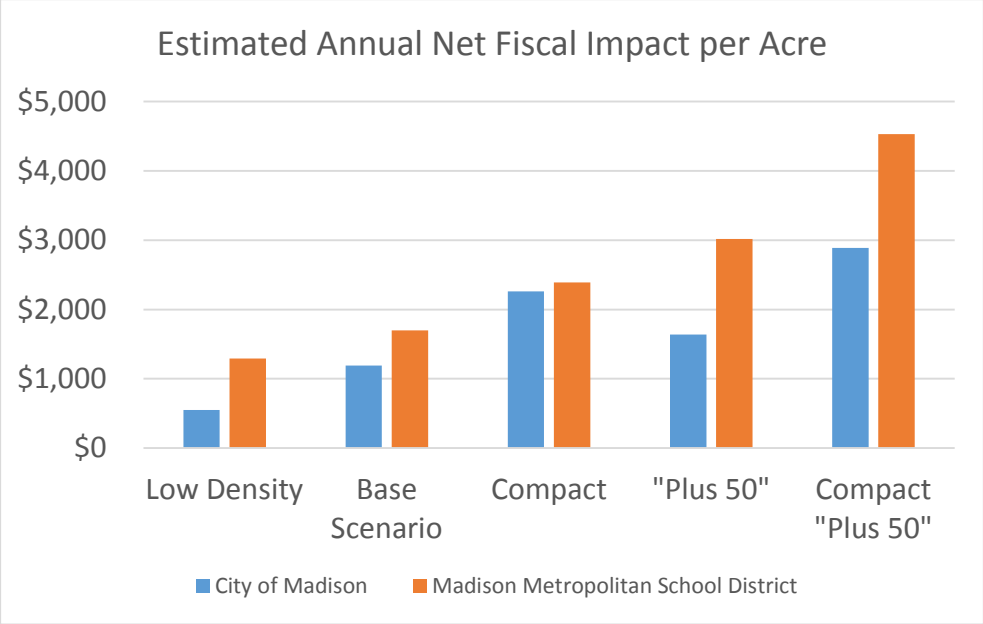
scenarios help to evaluate the magnitude of public cost savings associated with more compact development patterns.

The quantity of development in each scenario is summarized below:

Unit Type	Low	Base	Compact	Plus 50	Compact Plus 50
Single-Family Detached	1,543	1,543	1,543	1,780	1,780
Multifamily Units	3,236	3,236	3,236	4,466	4,466
Total Units	**4,779**	**4,779**	**4,779**	**6,246**	**6,246**
Total Gross Acres	2,379	1,403	915	1,403	915
Net Residential Density	4.1	9.0	16.2	11.7	23.4
Commercial SF	4,646,920	4,646,920	4,646,920	6,990,376	6,990,376

Key Findings – Net Fiscal Impact

As the chart below clearly shows, as the density of development increases, the net fiscal impact per acre also increases. Once again, the "Low Density", "Base", and "Compact" scenarios all have the same development program on a varying amount of land while the "Plus 50" and "Compact Plus 50 Scenarios" are based on a different development program, per the table above.



The relationship in the above chart is due mainly to two factors associated with higher density: cost savings and reduced land consumption.

For the City of Madison, the compact scenario would reduce estimated costs by approximately 12% over the low density scenario. Even after assuming a reduction in the average value of single-family homes due to smaller lot sizes[1], the cost savings under the compact scenario make a large difference to the bottom line net fiscal impact. Under the compact scenario, the net fiscal impact of $2.07 million for the City of Madison is 23% higher than the net fiscal impact under the base scenario of $1.66 million, and 53% higher than the net fiscal impact under the low density scenario. The impact on the net fiscal impact *per acre* is even more dramatic as the higher absolute net fiscal impacts are spread over fewer acres.

These results highlight the high opportunity cost of sprawl on public finances and the importance of the net fiscal impact per acre metric, as opposed to only the absolute total. Judged solely by the combined total of the net fiscal impact for both the City and the Madison Metropolitan School District, the compact scenario generates a total net fiscal impact that is 3% lower than the low density scenario. However, that net fiscal impact is achieved on 915 acres instead of 2,379. The remaining 1,464 acres and the property tax they generate is not included in the result. The remaining land, even if it remained vacant would generate property tax revenues, but more importantly, it could accommodate future growth and development, an opportunity that would be foreclosed under the low density scenario.[2] Because the value of the "saved" acreage is not reflected in the absolute totals, the net fiscal impact per acre is the more informative comparison between the programs.

This is important to note in interpreting the results for the Madison Metropolitan School District. For it, the compact scenario is estimated to result in a 2.3% cost savings over the low density scenario. On an absolute basis, this level of cost savings is not enough to compensate for the projected loss in tax revenue associated with smaller single-family lot sizes, so the analysis shows a decline in the absolute net fiscal impact for the Madison Metropolitan School District as density increases. However, the low density scenario consumes 1,464 fewer acres than the compact scenario. Therefore, on a per acre basis, the net fiscal impact to the Madison Metropolitan School District does increase as density increases. In fact, the net fiscal impact per acre under the compact scenario is nearly double that of the low density scenario, even under the assumption that single-family home values would decrease in the compact scenario.[3]

The table below presents a summary of the results by scenario. The results reflect the estimated annual net fiscal impact, at build-out, of each scenario. The net fiscal impact is defined as the projected revenues

[1] Based on assessment records from the City of Madison. See page 5 for further details.

[2] The retained land could of course be put to a public purpose, such as new parks. In such a case, it might come off the tax rolls; nonetheless, it clearly has economic value, which might be approximated by considering the cost that would be incurred to purchase it for that purpose.

[3] As noted and discussed further below, this analysis maintains the very conservative assumption that reduced lot sizes result in reduced single-family property values. If, on the other hand, we allow for the possibility that the value of residential property may rise on a square-foot basis when homes are located in walkable environments, and in close proximity to services offered in a mixed-use community, there arises the potential for the "location premium" to offset the value of the diminished land area.

minus the projected operating costs and certain annualized capital costs.[4] All results are presented in current dollars.

Revenues

	City of Madison			*Madison School District*		
Scenario	**Total**	**Per Capita (Res. & Emp.)**	**Per Acre**	**Total**	**Per Capita (Res. & Emp.)**	**Per Acre**
Low Density	$15,646,000	$662	$6,600	$19,626,000	$830	$8,300
Base Scenario	$15,083,000	$638	$10,800	$18,780,000	$790	$13,400
Compact	$14,752,000	$624	$16,100	$18,357,000	$780	$20,100
"Plus 50"	$20,306,000	$607	$14,500	$24,545,000	$730	$17,500
Compact "Plus 50"	$19,975,000	$597	$21,800	$24,122,000	$720	$26,400

Expenditures

	City of Madison			*Madison School District*		
Scenario	**Total**	**Per Capita (Res. & Emp.)**	**Per Acre**	**Total**	**Per Capita (Res. & Emp.)**	**Per Acre**
Low Density	$14,334,000	$607	$6,000	$16,567,000	$700	$7,000
Base Scenario	$13,418,000	$568	$9,600	$16,396,000	$690	$11,700
Compact	$12,683,000	$537	$13,900	$16,173,000	$680	$17,700
"Plus 50"	$18,012,000	$539	$12,800	$20,307,000	$610	$14,500
Compact "Plus 50"	$17,327,000	$518	$18,900	$19,972,000	$600	$21,800

Net Fiscal Impact

	City of Madison			*Madison School District*		
Scenario	**Total**	**Per Capita (Res. & Emp.)**	**Per Acre**	**Total**	**Per Capita (Res. & Emp.)**	**Per Acre**
Low Density	$1,311,000	$60	$550	$3,058,000	$130	$1,290
Base Scenario	$1,665,000	$70	$1,190	$2,384,000	$100	$1,700
Compact	$2,069,000	$90	$2,260	$2,184,000	$90	$2,390
"Plus 50"	$2,295,000	$70	$1,640	$4,238,000	$130	$3,020
Compact "Plus 50"	$2,648,000	$80	$2,890	$4,150,000	$120	$4,530

Conservatism

SGA believes this model likely underestimates the improvement to net fiscal impact associated with higher densities. Most importantly, the model makes very conservative assumptions with regard to revenues. A wide body of research has confirmed that dense, walkable environments enjoy significant value premiums of 20% and higher over typical suburban product.[5] This means that the assessed value per square foot of development could well be higher in the compact scenario than the base or low density scenarios. At this point, however, we have not included any value premium associated with density in this analysis. In fact,

[4] The model does not currently account for all public capital costs. Only capital costs associated with fire protection, road resurfacing, pipe reconstruction, and school construction are included. Capital costs not accounted for are assumed not to vary directly with density. Future versions of this model will attempt to develop a more comprehensive accounting of all capital costs associated with new development, depending on data availability.

[5] http://blog.walkscore.com/wp-content/uploads/2009/08/WalkingTheWalk_CEOsforCities.pdf; http://www.u.arizona.edu/~gpivo/Walkability%20Paper%208_4%20draft.pdf; http://www.brookings.edu/~/media/Research/Files/Papers/2012/5/25%20walkable%20places%20leinberger/25%20walkable%20places%20leinberger.pdf

to be conservative, SGA has assumed that the average single-family home land value would decrease with higher density due to smaller lot sizes

In addition to the conservative revenue assumptions, SGA was not able to model certain other cost drivers that may be density-related due in part to a lack of sufficient data. Solid waste and recycling pickup, for example, is almost certainly less efficient in low density environments because of the greater distance, and therefore time and fuel between pickups. Police protection may also become less expensive in dense, walkable environments because of a need for fewer patrol cars and vehicle fuel and maintenance costs. The effective modeling of this relationship remains a task for future research.

Methodology

Revenues

Property Tax

The City of Madison provided assumptions with respect to property values for each product type involved in the study.

However, SGA made its own estimates of single-family home values based on an analysis of land and improvement values in the vicinity of the Pioneer District. Using these homes, SGA conducted a linear regression analysis of the relationship between lot size and assessed land value. Using this analysis, SGA was able to estimate the likely impact on assessed value of the changes in lot sizes that follow the changing densities in each scenario. No adjustments for lot sizes were applied to townhouses, multifamily units, or commercial properties because land for these functions is typically valued on a per unit or per allowable square foot basis.

In each scenario, the assumed assessed values were multiplied by the appropriate tax rates for the City of Madison and the Madison Metropolitan school district.

Miscellaneous Revenues

Residents and employees of the development were assumed to generate revenues related to licenses, permits, fees, and certain other miscellaneous sources at the same rate as current residents and employees. These revenues were assumed to not vary by density.

Expenditures

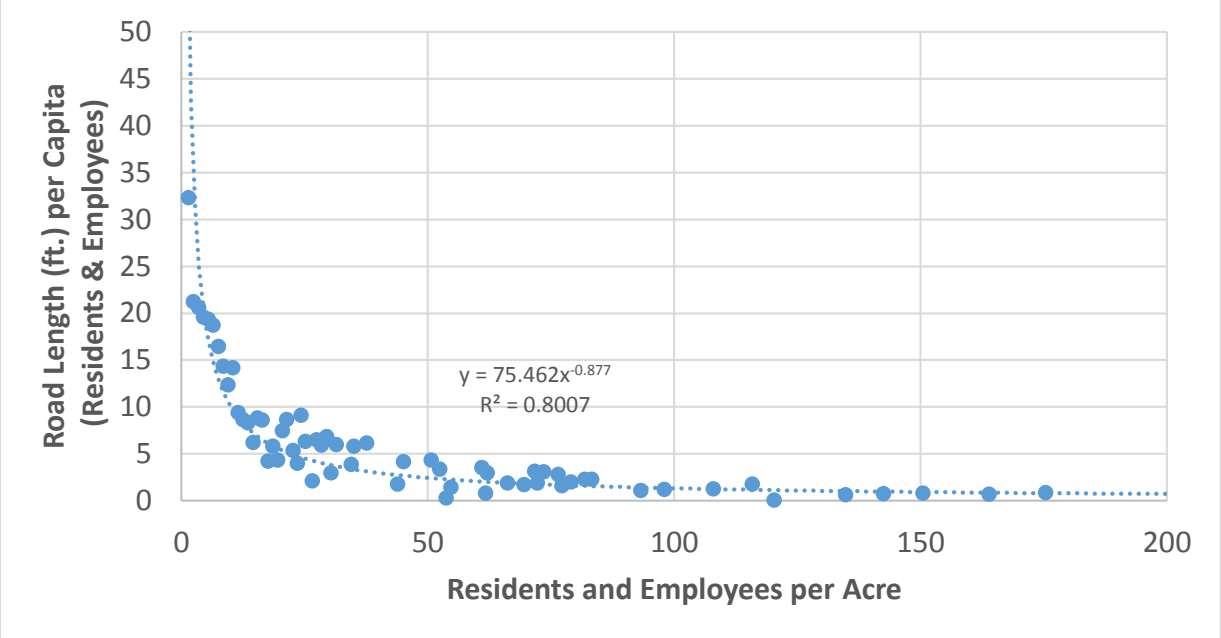
Density-Related Expenditures

SGA divided the expenditures associated with new development into two basic categories. The first includes those that are likely to be affected by the density of the development while the second includes all other expenditures. For purposes of this analysis, SGA has treated expenditures on the maintenance of roads and pipes, including water, sewer, and storm sewer, as well as fire protection and school transportation as density-related. This represents approximately 20% of the total operating expenditures by the City of Madison and 3% of the Madison Metropolitan School District. Other expenditure categories, in particular solid waste pickup, and police protection are likely also affected by the density of development but the available information was not sufficient for SGA to credibly analyze the relationship for all categories.

Roads

SGA analysis shows that there is a strong inverse relationship between road length and area per capita, and the density of development in the City of Madison. Using GIS, a grid of equal-sized cells was drawn across the City of Madison and the number of residents and employees determined, as well as the road length and area in each cell. From these data points, SGA a formula was derived estimating both the road length and area needed per capita, at any reasonable density, assuming that the new development conforms to historical experience in the area.

A scatterplot, with road length per capita on the y axis and the density (measured in terms of residents and employees per acre) on the x axis, along with a regression formula describing the relationship between the two factors, is shown below. [6] As the chart clearly illustrates, there are significant improvements in efficiency when moving from typical suburban densities of 4-5 people and employees per acre to approximately 40 persons and employees per acre. Thereafter, the quantity of roads per capita decreases only slightly as density increases. While the chart below depicts road length only, SGA found a similarly strong relationship between road area and population/employment density.



In Madison, Capital costs for roads are paid by the developer; however, the City must maintain all roads. The City of Madison estimated that roads generally cost $3.00 per square foot to resurface and must be resurfaced every 20 – 40 years depending on usage. This model assumes that all roads will be resurfaced every 25 years. The cost of resurfacing is annualized by dividing the estimated resurfacing cost by the expected lifetime of 25 years. In addition, the model assumes that the new roads would generate the same average costs per square foot in terms of pothole repair and snow removal as all other roads in the City of Madison. Note that this model does not currently estimate the additional demand placed on off-site roads, which may also incur maintenance costs.

[6] Note that each point may not represent one cell. Instead, values for all cells within certain density categories were averaged and presented as one point.

Water and Sewer Mains

The maintenance of water and sewer mains is performed by the City utility, which collects fees based on the quantity of water provided and wastewater processed. In a typical fiscal impact analysis, costs and revenues associated with public utilities are ignored because it is assumed that the utility adjusts its rates to cover all costs, such that any expenses associated with a new development would be covered by the revenue it would generate.

Nonetheless, the density of development does affect the costs to the utility. All else being equal, a development that requires an average of 100 feet of pipe between residences will cost more to maintain than a development with only 20 feet of pipe between residences. To account for this fact, SGA has developed a methodology that compares the ratio of pipe maintenance costs to the projected water and wastewater revenue generated by the development, to the same ratio for the City as a whole. If the ratio of maintenance costs to revenue generated is lower in the development than in the City as a whole, then the project is assumed to generate a positive cash flow to the City and vice versa.

Sewer and water mains typically follow the length of the street and SGA found that to be largely the case in the City of Madison. Therefore, SGA employed the same methodology used for road length to estimate the length of pipe needed in the development under each scenario. Water and wastewater use projections were made on a per resident and per employee basis using third party estimates.[7]

Pipe maintenance costs were based on the annualized cost of reconstruction, assuming a cost of $200 per linear foot and a lifetime of 100 years.[8] (The current analysis does not assume the reuse of any existing pipe.)

Fire/EMS Protection

To be effective, fire and EMS services must respond to emergency calls in a short amount of time. The specific response time varies by community, but fire service budgets and capital requirements are typically based on an established standard. This necessarily means that, for any given response-time standard, the efficiency of fire service will be dependent on the density within the "fire service shed" (the geographic area served by a station). If it is developed at a very low density, then the cost of service, including the cost of the station, the ambulances, fire engine/ladders, and their staff will be spread over a few people and employees, and likely a low property tax base.

However, only the station costs are fixed. If density increases enough, the additional population will eventually require new fire engines and staff to serve them. SGA was unable to find any widely accepted standards, either in the City of Madison, or nationally, on the quantity of fire engines and staff per population and employee. Therefore, SGA assumed that the City of Madison would maintain its existing level of service, which is approximately one fully-staffed fire engine per 27,000 residents and employees and one fully staffed ambulance per 55,000 residents and employees.

The current City of Madison response standard is 5 minutes. Assuming 1 minute for dispatch, this equates to a 4 minute travel time for the fire engine. SGA estimated the distance that the fire engine could travel

[7] https://www.home-water-works.org/about/calculator

[8] SGA has not assumed any variation in pipe width associated with density. No correlations were apparent between the average pipe width and the density of existing development in the City of Madison.

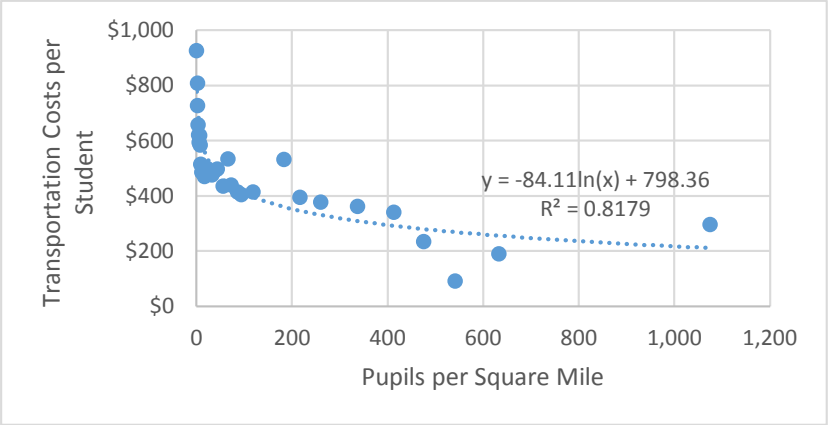
using a formula developed by the RAND institute and in use by ISO, a firm that analyzes the risk associated with public protection services for insurance companies.[9] SGA translated the distance the engine could travel in 4 minutes into the acreage of the response shed from a hypothetical station at the center of the proposed development.[10] Based on these assumptions, we found that the maximum service capacity for one fire engine and ambulance can be reached even at relatively low densities of approximately 6-7 residents and employees per acre. Therefore, the incremental operating efficiencies associated with rising density are already more or less maximized, even at low densities.

The capital cost of the station, however, is more fixed. Though additional bays may need to be added as the population of the response shed increases, much of the station would remain the same. These costs can then be "spread out" over more people and a larger property tax base as density increases.

Based on information provided by the City of Madison and additional sources, SGA estimated the cost of constructing a fire station, purchasing the necessary vehicles and equipment, and operating the vehicles on a per capita basis, assuming that the entire response shed is built-out.[11] This per capita cost is then multiplied by the number of residents and employees in the development in each scenario.

School Transportation

All else being equal, school transportation costs should decline in areas of higher density, for two reasons: a) more students will live within the "walk zone" (close enough that they are expected to walk to school), and; b) for those who are bused, school buses should have smaller distances to travel, saving on fuel costs and other operating costs. Data collected by the state of Wisconsin and other states on district transportation costs bears this out – transportation costs per student clearly decline as density increases. The chart below, based on data from the Wisconsin Department of Public Instruction, illustrates the relationship.



[9] https://firechief.iso.com/FCWWeb/mitigation/ppc/3000/ppc3015.jsp

[10] The estimate is based on the assumption that the fire engine response shed is roughly equivalent to the area of a circle with its center at the station, and radius equal to the distance the fire engine can travel in 4 minutes, after discounting the distance for connectivity issues. SGA estimated the appropriate discount by comparing the actual areas of various response sheds, using the street network, to the area in a whole circle.

[11] Until the response shed is completely built-out, per capita costs would be higher but the intent of this model is to capture the long-term differences in costs associated with different densities, therefore the per capita costs at build-out were used.

SGA's model calculates school transportation costs by estimating the number of students that are likely to be within the "walk zone" of any given school, assuming that the area around it is populated at the same gross density as the planned development in each scenario. Based on American Community Survey Public Use Microdata (PUMS) data for the City of Madison area, we estimated the number of students that would live in each development scenario and calculated the density of students per acre. The average student density was multiplied by the acreage of the walk zone for each school type (Elementary, Middle, and High). The number of likely students in the walk zone was then compared to the average school size by type for the City of Madison. If the number of students likely to be in the walk zone met or exceeded the typical school capacity, then transportation costs were assumed to be zero. If the number of students within the walk zone was less than the capacity of the school, the remainder were assumed to be eligible for school bus. No data was available on the percentage of eligible bus students that actually use bus. Pending the availability of better data or a better basis for an assumption SGA has assumed that 75% of eligible bus students were assumed to actually use bus, to account for the fact that some bus eligible students will find other means of transportation. Every bused student was assumed to generate annual costs equivalent to the current average expenditure per bused student in the Madison Metropolitan School District.

This model does not account for bussing due to reasons other than the distance from the school, e.g. integration, magnet schools, etc.

Non-Density Related Operating Expenditures

For all expenditures deemed not related to density of development, SGA applied the conventional methodology of average costing, whereby expenditure categories are averaged across the number of residents and employees in the jurisdiction. Each new resident and employee is assumed to generate these same costs. The distribution of costs between residents and employees is imprecise, as municipalities typically do not and/or cannot track expenditures at this level of detail. SGA used judgment in this regard, informed by the total proportion of residents to employees in the City of Madison, as shown on Exhibit 12. Note, however, that the allocation of these costs can have significant impact on the results, particularly when comparing development scenarios with different ratios of residents to employees. SGA recommends that the City of Madison review these assumptions carefully.

Notes on Interpretation

This study is intended to provide an estimate of the different costs and revenues associated with development at different densities. To that end, it compares annual revenues for each scenario at full build-out. It does not account for the time until build-out, which may well vary depending on the scenario. It also is a better calculator of the difference between scenarios, rather than the actual net fiscal impact in any given year of one scenario. This is mainly because major capital costs are annualized to provide an estimate of the overall long-term average costs. In reality, the City may need to spend very little money in the early years on maintaining infrastructure, for example, before eventually making a large balloon payment when infrastructure reaches the end of its lifetime. This model essentially assumes that the City saves up enough each year to make the large payment. The City's actual practice may differ, of course. In addition, the model does not account for all capital costs that may be generated by new development. For example, the capital cost of new police stations, libraries, and recreation facilities are not currently included in the model. These cost items were assumed to be either independent of density or SGA did not have sufficient data to establish a relationship between density and their costs. Therefore, the inclusion

of these costs might reduce the net fiscal impact of each scenario but the difference between scenarios, and the basic conclusions of this analysis, would remain unchanged.

The model also does not specifically account for the capacity of existing infrastructure. This is a deliberate choice for two reasons. First, the information on school, police, and fire capacity is difficult to obtain. Particularly, with respect to police, and fire, there are often no objective standards on when a new staffing or equipment is required. Second, and perhaps more importantly, it is questionable to attribute the cost of a new station or school entirely to the new development that happens to push facilities beyond their "tipping point." Growth in prior years is equally responsible. For that reason, it is more important to understand the long-term average costs and apply them equally. The key point is that, while such a quantification may be important for a full fiscal impact analysis of prospective development, it would not affect the results here, because any such variation is likely to be the same regardless of the density of the development alternatives. In this analysis, our effort is simply to discern fiscal impacts that vary based on development pattern.

Exhibit 1
Summary of Fiscal Impact Analysis
Pioneer District Base Development Scenario

Revenues

City of Madison		Madison Metropolitan School District		Combined Total	
Property Tax	$11,452,891	Property Tax	$14,636,029		
Hotel Tax	$0	State and Federal Aid	$4,143,710		
Water Utility	$1,284,840				
Sewer Utility	$1,317,088				
Miscellaneous	$1,028,231				
Total Revenues	$15,083,051	Total Revenues	$18,779,740	Total Revenues	$33,862,791

Density-Related Operating Expenditures

City of Madison		Madison Metropolitan School District		Combined Total	
Roads	$887,575	School Transportation	$593,239		
Fire	$2,157,425				
Water Utility	$1,042,755				
Sewer Utility	$1,263,430				
Storm Sewer	$98,893				
Subtotal	$5,450,078	Subtotal	$593,239	Subtotal	$6,043,318

Other Operating Expenditures

City of Madison		Madison Metropolitan School District		Combined Total	
All Other Exp.	$7,527,638	All Other Exp.	$13,923,231		
Subtotal	$7,527,638	Subtotal	$13,923,231	Subtotal	$21,450,869
Total Operating Exp.	**$12,977,716**	**Total Operating Exp.**	**$14,516,470**	**Total Operating Exp.**	**$27,494,186**

Capital Expenditures

City of Madison		Madison Metropolitan School District		Combined Total	
Off-site Roads	$0	Schools	$24,446,149		
Fire	$5,721,875				
Other					
Total	**$5,721,875**	**Total**	**$24,446,149**	**Total**	**$30,168,024**
Annualized Bond Payment (4.5%, 20 Years)	**$439,876**	**Annualized Bond Payment**	**$1,879,326**	**Annualized Bond Payment**	**$2,319,201**
Total Annual Op. and Capex	**$13,417,592**	**Total Annual Op. and Capex**	**$16,395,796**	**Total Annual Op. and Capex**	**$29,813,388**
Net Fiscal Impact	**$1,665,459**	**Net Fiscal Impact**	**$2,383,944**	**Net Fiscal Impact**	**$4,049,403**
Revenues per Capita (Emp & Res.)	$638	Revenues per Capita	$795	Revenues per Capita	$1,433
Costs per Capita (Emp & Res.)	$568	Costs per Capita	$694	Costs per Capita	$1,262
Revenues per Unit	$3,156	Revenues per Unit	$3,930	Revenues per Unit	$7,086
Costs per Unit	$2,808	Costs per Unit	$3,431	Costs per Unit	$6,239
Revenues per Acre	$10,751	Revenues per Acre	$13,385	Revenues per Acre	$24,136
Costs per Acre	$9,564	Costs per Acre	$11,686	Costs per Acre	$21,250
Net Fiscal Impact Per Capita	$70	Net Fiscal Impact Per Capita	$101	Net Fiscal Impact Per Capita	$171
Net Fiscal Impact per Acre	$1,187	Net Fiscal Impact per Acre	$1,699	Net Fiscal Impact per Acre	$2,886

Exhibit 2
Key Assumptions
Pioneer District Base Development Scenario

Residential	Persons per Unit[1]	Avg. Land Value per Unit[2]	Avg. Imp. Value per Unit[3]	Total Assessed Value per Unit
Small Lot Single-Family Detached	2.52	$94,018	$231,000	$325,018
For-Rent Multifamily	1.8	$10,000	$64,000	$74,000
For-Sale Multifamily	1.8	$10,000	$64,000	$74,000

Commercial	Gross SF per Employee[4]	Avg. Land Value per FAR SF[5]	Avg. Imp. Value per SF[5]	Total Assessed Value per Square Foot
Office	300	$26 per SF	$80 per SF	$106 per SF
Retail	500	$49 per SF	$73 per SF	$122 per SF
Hotel	0.4	$65,000 per Room		$65,000 per Room
Light Industrial	500	$17 per SF	$50 per SF	$67 per SF
Other	400			$75 per SF

1/ 2007-2012 American Community Survey PUMS Data and City of Madison Planning Dept. (Multifamily)
2/Single-family detached land based on regression analysis of assessed land values of single-family detached land in the vicinity of the Pioneer District. Other values based on estimates provided by City of Madison Planning Dept.
3/Average assessed value in vicinity of Pioneer District for single-family homes
4/SGA Estimates
5/Based on average assessed values in vicinity of Pioneer District

Exhibit 3
Development Program
Pioneer Development Base Scenario

Land Use	Acres	Res. Density	Comm. FAR	Total Res. Units	SFD	SFA	MF	Total Commercial Space	Office	Light Industrial	Retail	Hotel	Other
Birchwood Point	81.2	4.06		330	230	0	100	0					
1000 Oaks	98.2	2.86		281	281	0	0	0					
UW Research Park 2	242.6	0	0.24	0	0	0	0	2,500,000	2,500,000				
McKenzie Development	10	28.60		286	0	0	286	0					
Cardinal Glenn	44.3	0.00		205	205	0	0	0					
City Stormwater Facility	14.3	0.00		0	0	0	0	0					
Westside Public Works Facility	30.9	0.00		0	0	0	0	0					
Pellet Development	19.5	20.00		390	0	0	390	0					
Existing Single-Family	6.6	0.00		7	7	0	0	0					
Remnant (Storm/Park)	5.1	0.00		0	0	0	0	0					
School Site	7.1	0.00		0	0	0	0	0					
Total Built/Approved	559.8			1,499	723	0	776	2,500,000	2,500,000	0	0	0	0

Land Use	Acres	Res. Density	Comm. FAR	Total Res. Units	SFD	SFA	MF	Total Commercial Space	Office	Light Industrial	Retail	Hotel	Other
Low Density - Transition Area	86.3	4		345	345								
Low Density	94.9	5		475	475								
Low-Medium Density	69.0	10		690			690						
Medium Density	45.9	20		918			918						
Medium-High/High Density	12.4	35		435			435						
Urban Mix (PV/Watts node)	14.1	27	0.50	380			380	306,575	61,315		245,260		
Residential/Commercial Mix (NEC Watts/	2.3	16	0.125	37			37	12,524			12,524		
Commercial/Employment Mix (SWC MP/I	5.7		0.25	0			0	61,681	61,681				
Neighborhood Commercial (SEC MP/SP)	2.5		0.25	0			0	27,181			27,181		
Employment (Welton/Theis area)	64.3		0.30	0			0	840,534	840,534				
Light Industrial (Silicon Prairie)	82.5		0.25	0			0	898,425		898,425			
Total Planned	479.9			3280	820	0	2460	2,146,920	963,530	898,425	284,965		
Total Developable	1040			4779	1543	0	3236	4,646,920	3,463,530	898,425	284,965		
Undevelopable	363												
Total Acreage	1403												
Residential Acreage	534												
% of Total	38%												
Net Residential Density	9.0												
Gross Residential Density	3.41												

Exhibit 4
Revenues
Pioneer District Base Development Scenario

Property Taxes - City of Madison and Madison Metropolitan School District

Residential	Units	Avg. $AV per Unit	Total $AV	City of Madison Tax Rate	City of Madison Annual Tax Revenue	Madison Metropolitan School District Tax Rate	Madison Metropolitan School District Tax Revenue
Large Lot SFD	0	$450,000					
Small Lot SFD	1,543	$325,018	$501,476,157	0.95%	$4,770,041	1.22%	$6,095,794
Single-Family Attached	0	$210,000	$0	0.95%	$0	1.22%	$0
For-Rent Multifamily	1,618	$74,000	$119,721,344	0.95%	$1,138,789	1.22%	$1,455,297
For-Sale Multifamily	1,618	$74,000	$119,721,344	0.95%	$1,138,789	1.22%	$1,455,297
Subtotal	4,779		$740,918,845		$7,047,620		$9,006,387

Commercial	SF/Rooms	Avg. $AV per SF/Room	Total $AV	City of Madison Tax Rate	City of Madison Annual Tax Revenue	Madison Metropolitan School District Tax Rate	Madison Metropolitan School District Tax Revenue
Office	3,463,530	$106	$368,043,770	0.95%	$3,500,832	1.22%	$4,473,830
Retail	284,965	$122	$34,900,251	0.95%	$331,971	1.22%	$424,237
Hotel	0	$65,000	$0	0.95%	$0	1.22%	$0
Light Industrial	898,425	$67	$60,183,750	0.95%	$572,468	1.22%	$731,576
Other	0	$75	$0	0.95%	$0	1.22%	$0
Subtotal	4,646,920		$463,127,772		$4,405,271		$5,629,642
Total					$11,452,891		$14,636,029

Hotel Tax - City of Madison

Hotel Rooms	0
Avg. Annual Occupancy	70%
Avg. Daily Rate	$150
Annual Revenue	$0
Madison Hotel Tax Rate	9%
Madison Hotel Tax Revenue	$0

Allocated Miscellaneous Revenues - City of Madison

Residential	Units	Residents per Unit	Residents	Avg. Revenue per Resident	Total Revenue
Large Lot SFD	0	2.52	0	$44	$0
Small Lot SFD	1,543	2.52	3,888	$44	$169,229
Single-Family Attached	0	2.37	0	$44	$0
For-Rent Multifamily	1,618	1.80	2,912	$44	$126,749
For-Sale Multifamily	1,618	1.80	2,912	$44	$126,749
Subtotal	4,779		9,712		$422,727

Commercial	SF/Rooms	SF per Emp./Room	Employees	Avg. Revenue per Employee	Total Revenue
Office	3,463,530	300	11,545	$44	$502,492
Retail	284,965	500	570	$44	$24,806
Hotel	0	0.4	0	$44	$0
Light Industrial	898,425	500	1,797	$44	$78,207
Other	0	400	0	$44	$0
Subtotal	4,646,920		13,912		$605,504

Total Miscellaneous Revenues **$1,028,231**

Student Aid Revenues - Madison Metropolitan School District

Total State and Federal Aid	$113,970,928	Madison Metropolitan School District 2012-2013
Students	25,285	Madison Metropolitan School District 2012-2013
Per Student	$4,507	
Total Students	919	See Schools Tab
Total State and Federal Aid	$4,143,710	

Exhibit 5
Road Costs
Pioneer District Base Development Scenario

Costs Associated with Roads Directly Serving the Development

Total Housing Units	4,779	See Development Prgoram
Total Population	9,712	See Key Assumptions
Residential Acreage	491	See Development Prgoram
Total Acreage	1403	See Development Prgoram
Housing Units per Acre (Net)	10	
Housing Units per Acre (Gross)	3.41	
Population per Acre (Net)	19.8	
Population per Acre (Gross)	6.9	
Total Commercial SF	4,646,920	See Development Prgoram
Commercial Acreage	414	See Development Prgoram
Commercial FAR	0.26	See Development Prgoram
Total Employees	13,912	See Development Prgoram
Gross Commercial Employees per Acre	10	
Estimated Road Area Needed per Capita	231	SGA estimate based on regression analysis
Road Area Needed	5,463,425	
Existing Road Area	0	
New Road Area Needed	5,463,425	
Road Construction Cost per SF	$25	City of Madison
Resurfacing Cost per SF	$3.00	City of Madison
Years before Resurfacing	30	City of Madison
Annualized Resurfacing Cost per SF	$0.10	
Total Refuse, Snow Removal, Etc. Cost	$9,465,567	City of Madison
Total Road SF in Madison	151,551,648	City of Madison
Annual Cost per SF	$0.06	
Total Annual Reconstruction & Mx. Cost per SF	$0.16	
Total Annual Operating Cost	$887,575	
Total Annual Cost per Capita (Res & Emp.)	$37.57	

Exhibit 6
Water and Sanitary Sewer Costs
Pioneer District Base Development Scenario

Water Utility

Total Housing Units	4,779	Development Program
Total Population	9,712	Key Assumptions
Residential Acreage	490.6	Development Program
Total Acreage	1403	Development Program
Total Commercial SF	4,646,920	Development Program
Commercial Acreage	414	Development Program
Commercial FAR	0.26	Development Program
Total Employees	13,912	
Gross Employment Density	9.92	
Estimated Water Pipe Length Needed per Capita	6.34	SGA estimate based on regression analysis
Total Water Pipe Needed (LF)	149,838	
Existing Pipe Length to Be Reused	0	
New Pipe Length Needed (LF)	149,838	
Water Pipe Reconstruction Cost per LF	$200	City of Madison
Years before Reconstruction	100	City of Madison
Annualized Reconstruction Cost per LF	$2.00	City of Madison
Citywide Main Maintenance Costs	$1,694,048	Madison Water Utility;
Citywide Linear Feet	4,488,000	Assumes 850 Miles per City of Madison Water Utility
Avg. Annual Main Maintenance Cost per LF	$0.38	
Total Maintenance Cost per LF	$2.38	
Est. Total Annual Main Maintenance Cost Citywide	$10,670,048	
Total Metered Revenue (Res., Comm., Industrial)	$22,913,060	City of Madison Water Utility 2012 Financial Statement
Annual Main Maintenance as % of Metered Revenue	47%	
Project Annual Main Maintenance Cost	$356,233	

Est. Residential Water Use per Household	Persons per Unit	Indoor Use	Outdoor use	Total per HH	Units in Develop	Total Water Use
Large-Lot Single-Family Detached		0	55,845	55,845	0	0
Small Lot Single-Family Detached	2.52	41,360	21,170	62,530	1,543	96,478,550
Single-Family Attached	2.37	39,791	10,585	50,376	0	0
For-Sale Multifamily	1.8	33,459	0	33,459	1,618	54,132,504
For-Rent Multifamily	1.8	33,459	0	33,459	1,618	54,132,504
					4,779	204,743,558

Est. Annual Water Use (Gallons)	204,743,558	
Water Rate	$2.81 per 1,000	
Water Revenue	$575,329	
Total Revenue	$575,329	
	Annual Water Use per Employee	
Office	29,000	http://pacinst.org/wp-content/uploads/2013/02/appendix_e3.pdf
Retail	35,000	http://pacinst.org/wp-content/uploads/2013/02/appendix_e3.pdf
Hotel	54,000	http://pacinst.org/wp-content/uploads/2013/02/appendix_e3.pdf
	Project Employees	
Office	11,545	
Retail	570	
Hotel	0	
Total Water Use	354,755,440	
Est. Water Rate	$2.00 Per 1,000	Est. based on rates ranging from $1.83 to $2.34 depending on usage
Total Non-Residential Water Revenue	$709,511	
Total Water Revenue	**$1,284,840**	
Pipe Maintenance Costs as % of Rate Revenue	27.7%	
Savings vs Citywide Average	18.8%	
Total Water Costs	**$1,042,755**	

Sanitary Sewer Utility

Estimated San. Sewer Pipe Length Needed per Capita	6.34	SGA estimate based on regression analysis
Total Sewer Pipe Needed	149,838	
Existing Pipe Length to Be Reused	0	
New Pipe Length Needed (LF)	149,838	
Sanitary Sewer Pipe Reconstruction Cost per LF	$200	City of Madison
Years before Reconstruction	100	
Annual Maintenance Cost per LF	$2.00	
Citywide Main Maintenance Costs	$0	No Specific Information on Annual Maintenance Costs Avaliable
Citywide Linear Feet	4,012,800	Assumes 760 Miles per City of Madison
Avg. Annual Main Maintenance Cost per LF	$0.00	
Total Maintenance Cost per LF	$2.00	
Est. Total Annual Main Maintenance Cost Citywide	$8,025,600	Assumes constant cost of $2.00 per LF for all sewer pipes in Madison
Total Metered Revenue (Res., Comm., Industrial)	$29,916,262	City of Madison Sanitary Sewer Financial Statement 2013
Annual Main Maintenance as % of Metered Revenue	27%	
Project Annual Main Maintenance Cost	$299,675	
Sewer Rate	$2.50 Per 1,000	City Of Madison
Total Water Use	526,835,382	
Est. Wastewater Revenue	$1,317,088	
Total Wastewater Revenue	**$1,317,088**	
Project Pipe Maintenance Costs as % of Rate Revenue	22.8%	
Savings vs Citywide Average	4.1%	
Total Wastewater Costs	**$1,263,430**	

Exhibit 7
Storm Sewer Pipe Length Estimate
Pioneer District Base Development Scenario

Est. Storm Sewer Length per Capita	3.8	60% of Road Length per City of Madison Estimate
Total Estimated Storm Sewer Length	89,903	
Reconstruction Cost per LF	$110.00	
Years before Reconstruction	$100.00	
Annualized Maintenance Cost	$1.10	
Total Capital Cost	$9,889,288	
Annual Maintenance Cost	$98,893	

Exhibit 8
School Costs
Pioneer District Base Development Scenario

Non-Transportation Costs

	SFD	SFA	MF	Total
Units by Type	1,543	0	3,236	4,779

Student Generation Rate by Type	SFD	SFA	MF	
Elementary	0.17	0.11	0.05	American Community Survey PUMS
Middle	0.09	0.15	0.02	American Community Survey PUMS
High School	0.10	0.11	0.05	American Community Survey PUMS
Total	0.35	0.37	0.12	

Students Generated	SFD	SFA	MF	Total	Total Rate
Elementary	259	0	161	420	0.09
Middle	134	0	50	183	0.04
High School	150	0	166	316	0.07
Total	543	0	376	919	0.19

Est. School Construction Cost per SF	$190	RS Means and Wisconsin Comps. See Exhibit X
SF per Elementary Student	120	http://www.brainspaces.com/PRES/BrainSpaces-PRES_2007-1006_Capacity-CEFPI.pdf
SF per Middle School Student	146	http://www.brainspaces.com/PRES/BrainSpaces-PRES_2007-1006_Capacity-CEFPI.pdf
SF per High School Student	163	http://www.brainspaces.com/PRES/BrainSpaces-PRES_2007-1006_Capacity-CEFPI.pdf
Capital Cost per Elem. Student	$22,800	
Capital Cost per Middle School Student	$27,740	
Capital Cost per High School Student	$30,970	
Elem. School Capital Cost	$9,578,139	
Middle School Capital Cost	$5,088,283	
High School Capital Cost	$9,779,727	
Total	$24,446,149	
Total School District Operating Expenditures	$391,637,722	Madison Metro School Revised Budget 2013-2014
District Transportation Operating Expenditures	$11,381,284	Madison Metro School Revised Budget 2013-2014
Non-Transportation School Expenditures	$380,256,438	
Madison School Enrollment 2013-2014	25,107	Madison Metro School Revised Budget 2013-2014
Non-Transportation Expenditure per Student	$15,145	
Non-Transportation School Op. Exp.	$13,923,231	

School Transportation Costs

Elementary School	400	Average Enrollment of Madison Schools
Walk Zone Distance	1.5	Madison Metro School District
Street to Crow Flies Distance Conversion	33%	SGA Analysis
Walk Zone Radius	1.1	
Walk Zone Area in Acres	2,557	
Total Development Area	1,403	
Elementary Students in Development	420	
Elementary Students per Acre	0.299	
Elementary Students in Walk Zone at Plan Density	766	
Students Outside Walkzone	0.00	
Avg. Annual Expenditure per Bus Student	$1,734	SGA Analysis of Data Provided by Wisconsin Dept. of Public Instruction
% of Bus Eligible Students Using Bus	75%	SGA Estimate
Total Transportation Costs	$0	
Middle School	600	Average Enrollment of Madison Schools
Walk Zone Distance	1.5	Madison Metro School District
Street to Crow Flies Distance Conversion	33%	SGA Analysis
Walk Zone Radius	1.1	
Walk Zone Area in Acres	2,557	
Total Development Area	1,403	
Middle School Students in Development	183	
Middle School Students per Acre	0.131	
Middle School Students in Walk Zone at Plan Density	334	
Students Outside Walkzone	266	
Avg. Annual Expenditure per Bus Student	$1,734	SGA Analysis of Data Provided by Wisconsin Dept. of Public Instruction
% of Bus Eligible Students Using Bus	75%	SGA Estimate
Total Transportation Costs	$345,494	
High School	1,600	
Walk Zone Distance	1.5	Madison Metro School District
Street to Crow Flies Distance Conversion	33%	SGA Analysis
Walk Zone Radius	1.1	
Walk Zone Area in Acres	2,557	
Total Development Area	1,403	
High School Students in Development	316	
High School Students per Acre	0.225	
High School Students in Walk Zone at Plan Density	576	
Students Outside Walkzone	1024	
Avg. Annual Expenditure per Bus Student	$1,734	SGA Analysis of Data Provided by Wisconsin Dept. of Public Instruction
% of Bus Eligible Students Using Bus	75%	SGA Estimate
Total Transportation Costs	$1,332,325	
Total Transportation Costs at Full Capacity	$1,677,818	
Average per Student at Capacity	$645	
Total Cost Associated with Development	$593,239	

Exhibit 9
Fire Costs
Pioneer District Base Development Scenario

Calls per Fire Engine Company Capacity		
Minimum Total Response Time	5 Minutes	
Dispatch Time	1 Minutes	
Travel Time	4.0 Minutes	City of Madison
Road Distance Covered (Ft.)	10,405	https://firechief.iso.com/FCWWeb/mitigation/ppc/3000/ppc3015.jsp
Street to "Crow Flies" Conversion Factor	1.33	SGA analysis
Effective Service Area "Radius" (Feet)	7,823	SGA analysis
Service Area Acreage	4,414	SGA analysis
Avg. Population Density of Devt. Plan (Gross)	16.84	See Development Program and Revenues Tab. Population and Employment
Avg. Population and Emp. Density of Urbanized Madison	9.70	
Pop. Of Service Area	52,830	Assumes build-out of complete fire service area at plan density
Max. Population Capacity per Engine	27,000	Average # of Residents and Employees per Engine and Ladder in Madison
Capital Cost per Engine	$650,000	City of Madison
Capital Cost per Ladder	$1,200,000	SGA Estimate (City of Madison)
Ratio of Ladders to Engines	31%	Current City of Madison Average
Blended Cost per Engine/Ladder	$821,875	
Ambulance Cost	$200,000	SGA Estimate based on review of various sources
Exact Engines Required (Assuming Full Svc. Shed)	1.96	
Rounded Engines Required (Assuming Full Svc. Shed)	2.00	Assumes that 25% over capacity can be managed without a new engine
Avg. Ambulances per Fire Engine/Ladder	0.75	City of Madison Average
Exact Ambulances Required (Assuming Full Svc. Shed)	1.47	
Rounded Ambulances Required (Assuming Full Svc. Shed)	2.00	Assumes that 25% over capacity can be managed without a new ambulance
Fire Engine Employee Costs	$1,500,000	City of Madison Fire Department
Avg. Distance to Development Population	0.56	
Avg. Distance to Remainder of Service Area	1.27	
Weighted Average Distance to Calls (Crow Flies)	0.95	
Average Street Distance per call	2.52	Adjustment for connectivity factor and back and forth
Avg. Miles per Gallon	6	SGA Estimate
Avg. Fire Calls per Total Pop. of Residents and Employees	0.060	SGA Estimate based on Fire Calls in West Des Moines in 2013
Total Estimated Fire Calls	3,170	
Total Estimated Mileage	7,999	
Annual Fuel Consumption	1,333	
Fuel Cost per Gallon	$3.75	SGA Estimate
Maintenance Cost per Mile	$1.44	SGA Estimate based on 1998 Cost Analysis of Fire Apparatus in Norfolk, VA, after adjusting for inflation.
Total Annual Cost	$16,517	
Avg. Annual Ambulance Employee Cost	$901,000	City of Madison Fire Department
Average Street Distance per call	2.52	
Avg. Miles per Gallon	15	SGA Estimate
Avg. EMS Calls per Total Pop. of Residents and Employees	0.060	SGA Estimate based on EMS Calls in City of Madison in 2013
Total Estimated EMS Calls	$3,170	
Total Estimated Mileage	7,999	
Annual Fuel Consumption	533	
Fuel Cost per Gallon	$3.75	SGA Estimate
Maintenance Cost per Mile	$0.50	SGA Estimate
Total Annual Cost	$5,999	
Total Annual Operating Cost (Assuming Full Svc. Shed)	$4,824,516	
Annual Cost per Capita	$91	
Total Cost Applied to Development	$2,157,425	
Actual Development Residents and Employees	23,624	
Exact Fire Engines Needed (Actual Residents)	0.87	
Rounded Fire Engines Needed (Actual Residents)	1.00	
Rounded Ambulances Required	1.00	
Additional Bays Needed	0.00	
Construction Cost per SF	$195	Estimate based on RS Means estimate of $195 per sf for fire station construction in Minneapolis.
Construction Cost per Station	$4,350,000	Estimate Based on cost of $5.2M cost of Fire Station 13, completed in 2013.
Cost per Additional "Bay"	$250,000	Estimate based on RS Means estimate of $195 per sf for fire station construction in Minneapolis.
Station Land Cost	$350,000	SGA Estimate. Land for fire station 13 cost $300,000 in 2009.
Land Cost of Additional "Bay"	$25,000	SGA Estimate. Land for fire station 13 cost $300,000 in 2009.
Total Station Capital Cost	$4,700,000	
Total Vehicle Cost	$1,021,875	
Total Capital Cost	$5,721,875	

Exhibit 10
Allocation of Per Capita Revenues
Pioneer District Base Development Scenario

			Source:
Total Population	238,000	54%	City of Madison Budget (Adopted 2014)
Total Employees	199,000	46%	Census Local Employment Dynamics
Total	437,000		
Total Students	25,285		Madison Metropolitan School District

Revenues	2014 Revenues	% Allocated	Allocated $	% Residents	% Employees	Per Resident	Per Employee
Payments in Lieu of Tax	$3,287,503	0%	$0	0%	0%	$0.00	$0.00
Water Utility	$5,919,256	0%	$0	0%	0%	$0.00	$0.00
Hotel Room Tax	$2,957,832	0%	$0	0%	0%	$0.00	$0.00
Other Local Taxes	$184,000	40%	$73,600	54%	46%	$0.17	$0.17
Fines and Forfeitures	$7,200,000	100%	$7,200,000	54%	46%	$16.48	$16.48
Charges for Services	$7,088,000	100%	$7,088,000	54%	46%	$16.22	$16.22
Building Permits	$4,000,000	0%	$0	0%	0%	$0.00	$0.00
Licenses and Permits	$1,715,500	100%	$1,715,500	54%	46%	$3.93	$3.93
Ungrouped Revenues	$5,886,000	50%	$2,943,000	54%	46%	$6.73	$6.73
Intergovernmental Payments	$35,100,180	0%	$0	0%	0%	$0.00	$0.00
Property Tax	$198,441,725	0%	$0	0%	0%	$0.00	$0.00
Total	$268,492,493					$43.52	$43.52

Exhibit 11
Allocated Expenditures Summary
Pioneer District Base Development Scenario

Total Single-Family Residents	3,888
Total Multifamily Residents	5,824
Total Employees	13,912
Est. Expenditures per SF Resident	$562
Est. Expenditures per MF Resident	$480
Est. Expenditures per Employee	$183
Total Residential Expenditures	$4,981,712
Total Employment Expenditures	$2,545,926
Total Misc. and Allocated Operating Expenditures	$7,527,638

Exhibit 12
Allocation of per Capita Expenditures
Pioneer District Base Development Scenario

			Source:
Total Population	238,000	54%	City of Madison Budget (Adopted 2014)
Total Employees	199,000	46%	Census Local Employment Dynamics
Total	437,000	100%	
Total Students	25,285		Madison Metropolitan School District

Expenditures		**% Allocated**	**Allocated $**	**% Residents**	**% Employees**	**Per Resident**	**Per Employee**
Fire	$45,768,814	0%	$0	0%	0%	$0.00	$0.00
Police	$64,335,609	100%	$64,335,609	70%	30%	$189.22	$96.99
Public Health	$4,923,663	100%	$4,923,663	70%	30%	$14.48	$7.42
General Government	$1,709,914	100%	$1,709,914	70%	30%	$5.03	$2.58
Administration	$19,411,310	100%	$19,411,310	70%	30%	$57.09	$29.26
Streets	$24,935,147		$0				
Refuse	$9,511,164	See Below	$0	0%	0%	$0.00	$0.00
Recycling	$5,958,416	See Below	$0	0%	0%	$0.00	$0.00
Snow and Ice	$5,576,112	0%	$0	0%	0%	$0.00	$0.00
Street Sweeping	$227,863	0%	$0	0%	0%	$0.00	$0.00
Street Repair and Maintenance	$2,286,576	0%	$0	0%	0%	$0.00	$0.00
Roadside Cleanup	$1,375,016	0%	$0	0%	0%	$0.00	$0.00
Other Public Works	$36,375,698	100%	$36,375,698	70%	30%	$106.99	$24.97
Planning and Development	$18,807,629	100%	$18,807,629	70%	30%	$55.32	$12.91
Library	$14,513,083	100%	$14,513,083	85%	15%	$51.83	$4.98
Debt Service	$37,027,411	0%	$0	0%	0%	$0.00	$0.00
Misc. & Direct Appn to Capital	$8,517,292	0%	$0	0%	0%	$0.00	$0.00
Total	$276,325,570		$160,076,906			$480	$179

Estimated Non-MF Residents 178500 SGA Estimate based on 2008-2012 American Community Survey

		% Allocated	**Allocated $**	**% Residents**	**% Employees**	**Per Non-MF Resi**	**Per Employee**
Refuse	$9,511,164	100%	$9,511,164	95%	5%	$50.62	$2.39
Recycling	$5,958,416	100%	$5,958,416	95%	5%	$31.71	$1.50
Total per SFD Resident						$562	$183
Total per MF Resident						$480	$183