Appendices to the
Fiscal Impact Analysis of Development Scenarios

Prepared for:

The City of Champaign, Illinois

February 5, 2010

Prepared by:

TischlerBise
Fiscal, Economic & Planning Consultants

Table of Contents

TischlerBise
Fiscal, Economic & Planning Consultants

TischlerBise
Fiscal, Economic & Planning Consultants

APPENDIX A: LEVEL OF SERVICE, COST, AND REVENUE FACTORS

I. APPROACH AND MAJOR ASSUMPTIONS

This Level of Service (LOS), Cost, and Revenue Factor Memorandum discusses services and facilities provided by the City of Champaign that will be impacted by new development. The service level, cost, and revenue assumptions are based on TischlerBise's on-site interviews with staff, a detailed analysis of the current fiscal year budget and other documents, and the Cost of Land Use Analysis conducted previously. The assumptions outlined below will be utilized along with growth scenario projections to calculate the fiscal impact on the City's budget—including operating and capital expenditures—over a 20-year period. Calculations will be performed using a customized fiscal impact model designed specifically for this assignment. [1]

A. The Fiscals Process and Data Input Categories

In order to provide an understanding of the overall methodology used in this fiscal impact analysis, a brief explanation of the FISCALS process follows. The FISCALS software utilizes two types of input data. The first category of <u>demographic/economic</u> projections is called demand base data inputs. These numerical projections include data such as population, housing units and employment. The FY2009 population, job, and dwelling unit estimates are used to calculate unit costs and service level thresholds. These estimates are based on data provided by the City of Champaign.

The second type of input data relates to the government <u>service levels, costs, and revenues</u>. This data is used by TischlerBise's FISCALS system to calculate the annual costs, revenues, and capital facilities by department or function. These assumptions are outlined in this report.

B. Major Assumptions

The fiscal impact analysis can be regarded as a snapshot of the City's current budget. For this analysis, the FY2009 budget has been used to represent a "snapshot" of current costs, revenues, and levels of service. The current level of spending as depicted in the budget is referred to as the current level of service in this type of analysis. In summary, the "snapshot" approach does not attempt to speculate about how services, costs, revenues and other factors will change over 20 years. Instead, it evaluates the fiscal impact to the City as it currently conducts business.

The following major assumptions regarding the fiscal methodology should be noted.

---

[1] Calculations throughout this report are based on an analysis conducted using Excel software. Results are discussed in the report using one-and two-digit places (in most cases), which represent rounded figures. However, in some cases the analysis itself uses figures carried to their ultimate decimal places; therefore the sums and products generated in the analysis may not equal the sum or product if the reader replicates the calculation with the factors shown in the report (due to rounding).

1. Cost and Revenue Factors

All costs and revenues directly attributable to new development are included in this analysis. Some costs are not expected to be impacted by demographic changes and maybe be fixed (in constant dollars) in this analysis, such as some administrative functions. In other cases, the costs are variable based on certain factors. Personnel and other operating costs will be projected, as are capital expenditures. Projections of capital costs are based on discussions with personnel and Capital Improvement Plan. Revenues, operating costs, and capital costs will vary by development scenario.

2. Level-of-Service

Many revenue and cost projections are based on the assumption that the current level of spending, as provided in the budget, will continue into the future. This represents the best possible assumption to make at this time since the budget represents the City's commitment to provide certain services.

3. Cost and Revenue Structure

The analysis includes the City's General Fund, Special Revenue Funds that are supported by tax revenues, and Capital Revenues/Expenditures. Only those funds affected by new development are included in the analysis. Furthermore, only those revenues and costs *directly attributed* to the new development are assumed. Indirect, or spin-off, impacts are not included.

4. Inflation Rate

The rate of inflation is assumed to be zero throughout the projection period, and cost and revenue projections are in constant 2009 dollars. This assumption is in accord with current budget data and avoids the difficulty of forecasting as well as interpreting results expressed in inflated dollars. In general, including inflation is complicated and unpredictable. This is particularly the case given that some costs, such as salaries, increase at different rates than other operating and capital costs such as contractual and building construction costs. And these costs, in turn, almost always increase in variation to the appreciation of real estate, thus affecting the revenue side of the equation. Using constant 2009 dollars reinforces the snapshot approach and avoids these problems.

5. Non-Fiscal Evaluations

While a fiscal impact analysis is an important consideration in planning decisions, it is only one of several issues to be considered. Environmental and social issues, for example, should also be considered when making planning and policy decisions. The above notwithstanding, this analysis will enable interested parties to understand the fiscal implications of the proposed development.

TischlerBise
Fiscal, Economic & Planning Consultants

C. General Methodology

Annual costs and revenues attributable to new development will be projected by applying the applicable cost and revenue factors, as outlined in this LOS document, to new development. In general, five different methodologies are used. In some cases, a unique methodology must be used. These methodologies, along with accompanying examples, are described below.

1. Per Capita

Many of the factors described in this LOS document use a per capita approach. This approach is used for expenditures and revenues that are influenced strictly by population. If a cost or revenue is projected on a per capita basis, the budget is divided by the current population estimate to arrive at the current level of service standard.

For example, the variable portion of the Neighborhood Services Administration budget totals $27,647 in FY2009. This amount is divided by the current population estimate of 75,254, for a per capita cost of $0.37.

2. Per Capita and Job

Some factors described in the LOS document use a per capita and job approach. This approach is used for expenditures and revenues that are influenced by population and employment. If a cost or revenue is projected on a per capita and job basis, it is divided by the current population and employment estimate to arrive at the current level of service standard.

For example, variable expenses for the City Manager's Office total $107,244 in FY2009. These expenses are incurred as a result of the City Manger's duties, which benefit both residential and nonresidential activity. Therefore, a per capita projection methodology will understate revenues generated by new development. For example, if there are two scenarios that assume the same increase in population, but one assumes the development of an office building, a per capita approach will project the same amount of City Manager's Office expenditures under both scenarios. The per capita and job approach serves as a proxy for capturing the impact of expenditures generated by additional nonresidential activity. Therefore, the City Manager's Office expenditures ($107,244) is divided by the current population and employment estimate of 115,160, for a per capita and job expenditure of $0.93.

3. Per Trip

A per vehicle trip approach is used to project some Public Works expenditures. For example, the variable non-salary Streets operating expenses total $124,568. These expenses are divided by the total current vehicle trips of 268,693 for a per vehicle trip expenditure of $0.46.

Trip generation rates were obtained from the reference book, Trip Generation, published by the Institute of Transportation Engineers (8th Edition, 2008). To translate the trip generation factors into associated operating costs per 1,000 square feet of nonresidential space or per residential unit, the trip generation factors are multiplied by the cost per trip in the City of Champaign.

4. *Per Lane Mile*

For those Public Works functions that are driven by the length of road network, such as snow removal, a per lane mile approach is used. Variable expenses for Public Works Emergency Operations, which provides for snow removal, total $317,725 in FY2009. The level of service is found by dividing this budgeted amount by the existing 683.5 lane miles for a per lane mile cost of $464.85.

5. *Marginal Calculations*

An example of a variable marginal calculation is growth-related Property Tax revenues. In this case, the property tax levy is applied against the assessed values of new development to determine Property Tax generated by new growth.

Examples of direct entered marginal approach for costs are the $1.8 million one-time expense and $1.2 million recurring expense associated with adding a new fire company. These costs will be entered directly into the fiscal model.

D. Existing Conditions and Demand Factors

Current population, employment levels, and residential and nonresidential vehicle trips are used to calculate unit costs and service level thresholds. The following current demographic and data factors are used, as obtained by the sources indicated.

1. *Population and Housing Units*

The table below summarizes the current housing units and population in Champaign. These values are used to determine the residential cost and revenue factors summarized in the sections below. As shown in Figure A-1 below, the number of housing units in the City is estimated at 31,860. This estimate is based on the number of units contained in the 2000 U.S. Census and 2007 Special Census. The current population is taken from the draft Champaign Tomorrow: Existing Conditions Report received from the City Planning Department.

Figure A-1: FY2009 Population and Housing Units

Occupied Housing Units (1)	
Single Family Detached	15,491
Attached	1,425
Apartments	14,446
Mobile Homes	498
Total	31,860
Population (2)	75,254

(1) Based on 2007 Special Census and 2000 Census.
(2) Champaign Tomorrow: Existing Conditions Report

2. Persons per Household

Persons per household for single family detached prototypes is taken directly from 2007 Special Census data. In order to determine persons per household for all other residential prototypes, TischlerBise evaluated 2000 Census and 2007 American Community Survey data. Figure A-2 below summarizes household characteristic data.

Figure A-2: Persons Per Housing Units

Single Family Detached High Price Point	2.83
Single Family Detached Medium Price Point	3.35
Single Family Detached Low Price Point	2.25
Multi-family Units/Apartments	1.67
Attached Units	1.78

3. Employment and Nonresidential Building Area

Figure A-3 below summarizes the current estimate of employment and nonresidential building area for each major category of nonresidential development in Champaign. Employment in the City is estimated at 39,906 as of 2007, which is the most recent figure available. This total employment figure is taken from the Illinois Workforce Information Center.[2] The breakdown of employment by category is derived by applying the percentage of jobs in each category according to the draft Champaign Tomorrow: Existing Conditions report to the total number of jobs.

---

[2]

http://wic.ilworkinfo.com/analyzer/labforcedata.asp?geo=1711012385&cat=LAB&session=LABFORCE&susession=
99&areaname=Champaign+City&tableused=LABFORCE&defaultcode=&roll=&rollgeo=04&time=20070100&currsu
bsessavail=&sgltime=0&siclevel=3&naicslvl=6

The estimate of 15.3 million square feet of nonresidential building area is derived from the jobs numbers based on standards of square feet per job published in the reference book <u>Trip Generation</u> published by the Institute of Transportation Engineers (ITE).

Figure A-3: Employment and Nonresidential Building Area

Jobs by Type	
Commercial Jobs	10,370
Industrial Jobs	5,941
Office Jobs	23,377
Other Jobs	218
Total Jobs	39,906
Non-Residential Floor Area	
Commercial SF	2,503,505
Industrial SF	4,659,657
Office SF	8,181,960
Institutional SF	0
TOTAL NR KSF	15,345,122

II. GENERAL FUND REVENUES

A summary of the FY2009 budgeted General Fund revenues by type is shown in the table below. The major General Fund revenue source is sales tax; it comprises approximately 50% of total General Fund revenue. Property tax and income tax revenues are the next largest revenue sources comprising just over 30% of General Fund revenues. The remaining categories combined make up only 19% of revenues. This section describes each of the revenue sources in more detail as well as the methodology used to project future revenues in the fiscal impact analysis.

Figure A-4: General Fund Revenues by Type

General Fund Revenues--FY09
City of Champaign Fiscal Impact Analysis

Category	Amount	Percent
Property Tax	$10,373,029	17%
Sales Tax	$31,154,137	50%
Income Tax	$8,390,133	14%
Other Taxes	$6,645,760	11%
Fines	$1,206,502	2%
Permits, Licenses, & Fees	$2,106,850	3%
Other	$2,008,312	3%
Total	**$61,884,723**	**100%**

TischlerBise
Fiscal, Economic & Planning Consultants

A. Property Tax

The General Fund's property tax rate is 0.7197 per $100 of equalized assessed value (EAV); this rate includes the taxes for corporate purposes, the Illinois Municipal Retirement Fund, the Police Pension Fund, and the Fire Pension Fund. The table below summarizes the EAV for each type of residential unit being considered in the fiscal impact analysis as well as the General Fund property tax revenue generated per unit annually. The EAV is 33% of the market value.

Figure A-5: Residential EAVs

EAVs by Housing Unit Type and Annual Property Tax Generated

Type of Unit	EAV per Unit	Property Tax Revenue (per unit)
Single Family Detached High PP	$193,678	$1,394
Single Family Detached Medium PP	$73,748	$531
Single Family Detached Low PP	$49,153	$354
Attached Housing	$51,918	$374
Multi-family Units/Apartments	$11,373	$82
Infill Multi-family Units/Apartments	$44,780	$322

The table below summarizes the EAVs per thousand square feet for nonresidential development as well as the property tax revenue generated per thousand square feet of space.

Figure A-6: Nonresidential EAVs

EAVs by Housing Unit Type and Annual Property Tax Generated

Land Use	EAV per KSF	Property Tax Revenue (per KSF)
Industrial	$11,618	$84
Office	$33,416	$241
Neighborhood Retail	$36,168	$260
Big Box Commercial	$20,910	$150

B. Sales Tax

Sales tax is calculated using a marginal approach based on sales per square foot figures; the sources of information on sales per thousand square feet are BizStats and the Urban Land Institute.

TischlerBise
Fiscal, Economic & Planning Consultants

Figure A-7: General Fund Sales Tax Allocation

Prototype	Sales per 1,000 SF	Sales Tax Rate
Big Box Commercial	$329,000	2.25%
Neighborhood Retail	$272,980	2.25%

C. Income Tax and Other Taxes

Figure A-8 below summarizes the projection methodology and LOS standards for income tax and all other General Fund taxes. Note that Income Tax is projected using the per capita methodology, as it is distributed from the state to the City based on population.

Figure A-8: General Fund Income Tax and Other Taxes Allocation

Revenue	FY09 Budget	Projection Methodology	LOS Standard
Income Taxes	$8,390,133	POPULATION	$111.49
Other Taxes	$22,600	FIXED	$0.00
Hotel-Motel Tax	$1,491,114	FIXED	$0.00
Utility Taxes	$2,438,033	POP AND JOBS	$21.17
Telecommunications Tax	$2,694,013	FIXED	$0.00

D. Other General Fund Revenues

Most other sources of General Fund revenue are held constant, as they will not change with the addition of new development.

Revenue from fines includes Court & Municipal Fines, DUI Fines, Animal Control Fines, Liquor Violation Fines, and Excess False Alarm Fines. Only Animal Control Fine revenue has increased with past growth in the City; thus, only this fee is considered variable.

Permits, Licenses, and Fees associated with new development are variable based on population and jobs. Building permit revenues are one-time revenues; thus, the model only generates building permit revenue in the year that a new unit or new nonresidential development is built. The only "other" revenue that is variable is City Franchise Fees, which are also allocated on a per person and per job basis.

Figure A-9: Other General Fund Revenue Allocation

	Revenue	FY09 Budget	Projection Methodology	LOS Standard
Fines	Court & Municipal Fines	$1,163,002	FIXED	$0.00
	DUI Fines	$7,500	FIXED	$0.00
	Animal Control Fines	$13,000	POPULATION	$0.17
	Liquor Violation Fines	$10,000	FIXED	$0.00
	Excess False Alarm Fines	$13,000	FIXED	$0.00
Permits,	Right of Way Occupancy Permits	$12,000	POP AND JOBS	$0.10
Licenses, &	Building Permits*	$481,600	POP AND JOBS	$4.18
Fees	Electrical Permits*	$122,300	POP AND JOBS	$1.06
	Plumbing Permits*	$121,000	POP AND JOBS	$1.05
	Mechanical Permits*	$140,000	POP AND JOBS	$1.22
	Sign Permits	$1,250	FIXED	$0.00
	Demolition Permits	$5,000	FIXED	$0.00
	Excavation Permits	$11,000	FIXED	$0.00
	Sewer Connection Permits	$22,000	POP AND JOBS	$0.19
	Driveway & Sidewalk Permits	$11,000	POP AND JOBS	$0.10
	Sprinkler Permits	$20,000	POP AND JOBS	$0.17
	Restaurant Licenses	$4,500	FIXED	$0.00
	Alarm User Registrations	$5,500	FIXED	$0.00
	Misc Licenses	$6,000	FIXED	$0.00
	Vehicle Licenses	$9,000	FIXED	$0.00
	Occupational Licenses	$4,500	TOTAL JOBS	$0.11
	Liquor Licenses	$360,000	FIXED	$0.00
	Planning & Development Fees	$7,000	POP AND JOBS	$0.06
	Public Safety Service Fees	$557,700	POP AND JOBS	$4.84
	Other Service Fees	$205,500	FIXED	$0.00
Other	City Rental Income	$2,800	FIXED	$0.00
	City Franchise Fees	$592,500	POP AND JOBS	$5.14
	Sale of City Property	$7,000	FIXED	$0.00
	Salary & Training Reimbursement	$20,000	FIXED	$0.00
	City Expense Reimbursement	$453,300	FIXED	$0.00
	Library Debt Payment	$278,615	FIXED	$0.00
	Damaged Property Reimb.	$50,000	FIXED	$0.00
	Refunds	$5,000	FIXED	$0.00
	Interest & Investement Income	$400,000	FIXED	$0.00
	Intergovernmental Rev.--Fed.	$22,600	FIXED	$0.00
	Donations & Contributions	$35,000	FIXED	$0.00
	Code 4 Donations & Contr.	$500	FIXED	$0.00
	Tobacco Enforcement Grant	$500	FIXED	$0.00
	Citizen Corp Grant	$5,000	FIXED	$0.00
	Roadside Safety IDOT Grant	$4,000	FIXED	$0.00
	Illinois Tomorrow Grant/IDOT	$36,670	FIXED	$0.00
	Drug Enf. Agency Overtime Ribe	$15,854	FIXED	$0.00
	MLK Program Reimb.	$7,000	FIXED	$0.00
	CUIHA Program Reimb.	$6,000	FIXED	$0.00
	IDOT--Speed Enf. Grant	$33,973	FIXED	$0.00
	Byrne Mem. Justice Asst Grant	$32,000	FIXED	$0.00

*One-time revenue source.

9

TischlerBise
Fiscal, Economic & Planning Consultants

III.   SPECIAL FUNDS REVENUES

Several special funds provide revenues to the City; those impacted by new development have been included in the fiscal impact study including the Motor Fuel Tax Fund, Urban Renewal Fund, and Library Funds.

A.   Motor Fuel Tax Fund Revenues

The only significant revenue source is the motor fuel tax, which is allocated based on population just as the state allocates it to the City.

Figure A-10: Motor Fuel Tax Fund Revenue Allocation

Revenue	FY09 Budget	Projection Methodology	LOS Standard
Motor Fuel Tax (state transfer)	$2,161,508	POPULATION	$28.72
Interest & Investment Income	($39,014)	FIXED	$0.00
Intergovernmental Revenues--State	$328,000	FIXED	$0.00

B.   Urban Renewal Fund Revenues

The only revenue source in the Urban Renewal Fund is a share of utility taxes, which is allocated based on population and jobs.

Figure A-11: Urban Renewal Fund Revenue Allocation

Revenue	FY09 Budget	Projection Methodology	LOS Standard
Utility Taxes (3/11 of utility taxes)	$914,263	POP AND JOBS	$7.94
Interest & Investment Income	$20,744	FIXED	$0.00

C.   Library Funds Revenues

Figure A-12 below summarizes the revenue sources, the allocation methodology, and the revenue factors for the Library Improvement, Tax, Operating, and Other Funds. Library revenues are only allocated to residential land uses.

Figure A-12: Library Funds Revenue Allocation

	Revenue	FY09 Budget	Projection Methodology	LOS Standard
Library Improvement Fund	Property Taxes	$421,385	CUM EAV	$0.03
	Interest & Investment Income	($6,399)	FIXED	$0.00
	Donations & Contributions	$250,000	FIXED	$0.00
Library Tax Account Fund	Property Taxes	$5,887,770	CUM EAV	$0.39
	Income Taxes	$97,339	POPULATION	$1.29
	Interest & Investment Income	$50,000	FIXED	$0.00
Library Operating Fund	Property Tax--transfer from library tax account	$5,887,770	FIXED	$0.00
	Pers. Prop. Repl. Tax Transfer from Libr. Tax Acct	$97,339	FIXED	$0.00
	General Fines and Fees	$172,200	POPULATION	$2.29
	Materials Rental Income	$27,000	POPULATION	$0.36
	A/R Income	$12,000	FIXED	$0.00
	Photocopy Income	$9,000	FIXED	$0.00
	Interest Income	$50,000	FIXED	$0.00
	Misc. Income	$500	FIXED	$0.00
Library Other Funds	Operating Fund Transfer (from Libr. Op.)	$233,174	FIXED	$0.00
	Gift Fund Transfer	$55,532	FIXED	$0.00
	State Per Capita Grant	$94,068	POPULATION	$1.25
	Interest Income	$10,670	FIXED	$0.00
	LSTA Grant	$1,240	FIXED	$0.00
	IL Arts Council Grant	$2,000	FIXED	$0.00
	IL State Library Grant	$10,000	FIXED	$0.00

The largest revenue source for the library is property taxes. As Figure A-12 indicates, property taxes were allocated using a custom methodology. The Library Improvement and Library Tax Account Funds each have their own property tax rate. The Improvement property tax revenue is dedicated to paying the bonds issued for the new library while the Tax Account property tax revenue is used for general operations. The property tax shown in the Library Operating Fund consists of revenue that has been transferred from the Library Tax Account; it is held fixed since this revenue is allocated while in the Library Tax Account. Property tax generated by each type of residential unit is shown below in Figure A-13.

Figure A-13: Library Property Tax Revenues

Land Use Type	EAV per Unit/KSF	Library Impr. Fund 0.0282	Library Tax Account/Operations 0.394
Single Family Detached High PP	$193,678	$55	$763
Single Family Detached Medium PP	$73,748	$21	$291
Single Family Detached Low PP	$49,153	$14	$194
Attached Housing	$51,918	$15	$205
Multi-family Units/Apartments	$11,373	$3	$45
Infill Multi-family Units/Apartments	$44,780	$13	$176
Industrial	$11,618	$3	$46
Office	$33,416	$9	$132
Neighborhood Retail	$36,168	$10	$143
Big Box Commercial	$20,910	$6	$82

All other variable library revenues are allocated based on population.

D. Food and Beverage Tax Revenues

Food and Beverage Tax revenues are considered variable with increases in the population as shown in Figure A-14 below.

Figure A-14: Food and Beverage Tax Revenues

Revenue	FY09 Budget	Projection Methodology	LOS Standard
Food & Beverage Tax	$1,430,186	POPULATION	$19.00

IV. CAPITAL FUND REVENUES

Figure A-15 below summarizes the revenue sources, the allocation methodology, and the revenue factors for the Capital Fund Revenues.

Figure A-15: Capital Fund Revenue Allocation

Revenue	FY09 Budget	Projection Methodology	LOS Standard
Property Taxes	$1,391,779	CUSTOM	$0.07
Interest & Investment Income	$49,703	FIXED	$0.00
First & Windsor Intersection Exp RIBE	$512,110	FIXED	$0.00
City Expense Reimb	$150,000	FIXED	$0.00
Intergovernmental Revenue--Other	$1,048,879	VEHICLE TRIPS	$3.90
Intergovernmental Revenue--State	$2,900,000	VEHICLE TRIPS	$10.79
Tranfer from GO Fund--recurring	$4,245,315	FIXED	$0.00
Tranfer from GO Fund--one time	$916,400	FIXED	$0.00
Transfer from 2007 A bonds (Olympian)	$1,512,898	FIXED	$0.00

The major source of growth-related revenue in the Capital Improvements Fund is property tax, so the taxable value determines the amount of revenue per prototype. The property taxes generated per land use type are shown below in Figure A-16. Note that the total Capital Fund property tax rate is 0.1939; however, 0.123 of this is dedicated to Stormwater projects and goes directly into that fund, which is not included in this fiscal study. The remaining Capital Fund property tax of 0.071 is primarily used to fund street and road projects. Note that the bond proceeds have been kept fixed so that revenues for this fiscal year are not overstated.

Figure A-16: Capital Fund Property Tax Revenues

Land Use Type	EAV per Unit/KSF	Capital Fund Property Tax 0.071
Single Family Detached High PP	$193,678	$138
Single Family Detached Medium PP	$73,748	$52
Single Family Detached Low PP	$49,153	$35
Attached Housing	$51,918	$37
Multi-family Units/Apartments	$11,373	$8
Infill Multi-family Units/Apartments	$44,780	$32
Industrial	$11,618	$8
Office	$33,416	$24
Neighborhood Retail	$36,168	$26
Big Box Commercial	$20,910	$15

TischlerBise
Fiscal, Economic & Planning Consultants

V.   GENERAL GOVERNMENT EXPENDITURES

This section provides an overview and examples of the allocation methodologies used for general government expenditures. More detail is provided for those departments that are most affected by growth in the City.

A. General Government

Included in this section are the Mayor and Council, City Manager's Office, Legal Department, Finance Department, Human Resources Services, Planning Department, and Information Technology.

For the vast majority of these departments, staffing costs are considered fixed while the levels of service for commodities and contractual expenses are found using population and jobs as shown in the example of the Mayor and Council in Figure A-17 below. For example, the FY2009 amount budgeted for commodities of $1,415 is divided by the total of population (75,254) and jobs (39,906) to determine the level of service of $0.01 per person or job ($1,415 / 115,160 = $0.01). This level of service will be multiplied by persons per household to determine the forecasted expenses per housing unit. For an attached unit, the level of service of $0.01 is multiplied by the 1.67 persons per household to determine that every new attached housing unit generates $0.0167 in new Mayor and Council Commodities expenditures.   For nonresidential development, the level of service is multiplied by the jobs factor per thousand square feet and by the size of the development in square feet. A 50,000 square foot office building would be: $0.01 x 4.14 jobs per thousand square feet x 50,000 square feet / 1,000 square feet = $2.07 new commodities expenditures.

Figure A-17: Mayor and Council Operating Expenses Allocation

MAYOR & COUNCIL			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$145,164	SEE BELOW	$0.00
Commodities	$1,415	POP AND JOBS	$0.01
Contractual Services	$48,462	POP AND JOBS	$0.42
TOTAL	$195,041		

MAYOR & COUNCIL STAFFING INPUT		
Category	FY 2009 FTE Positions	Project Using Which Demand Base?
Secretary II	1.0	FIXED

For both the Finance Department and Human Resources Department, not all staffing costs are held constant, as interviews with the City indicated that in these departments staffing is nearing

14

its capacity. Thus, with new development in the City, positions will need to be added; the figures below show the positions that are variable and the LOS standards. Within the Finance Department, the Accountant, Financial Analyst, Customer Service Representative, and Finance Technician are considered variable costs. For example, when capacity is reached for the existing Accountant, the model will trigger the need for an additional Accountant.

Figure A-18: Finance Staffing

Category	FY 2009 FTE Positions	Project Using Which Demand Base?
Finance Director	1.0	FIXED
Financial Services Manager/Budget Officer	0.9	FIXED
Financial Services Manager/City Accountant	1.0	FIXED
Accountant/Financial Analyst	2.0	POP AND JOBS
Records Manager/City Clerk	1.0	FIXED
Customer Service Representative	1.0	POP AND JOBS
Secretary II	1.0	FIXED
Finance Technician	0.9	POP AND JOBS
Account Clerk II/III	5.5	FIXED
Secretary I	1.0	FIXED
Temporary Research Intern	0.4	FIXED

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Finance Director	$120,158	28%	$154,126
Financial Services Manager/Budget Officer	$77,473	28%	$99,375
Financial Services Manager/City Accountant	$77,473	28%	$99,375
Accountant/Financial Analyst	$57,759	28%	$74,087
Records Manager/City Clerk	$55,039	28%	$70,598
Customer Service Representative	$38,709	28%	$49,652
Secretary II	$43,115	28%	$55,304
Finance Technician	$49,881	37%	$68,341
Account Clerk II/III	$40,461	28%	$51,900
Secretary I	$39,086	37%	$53,552
Temporary Research Intern	$25,709	37%	$35,224

Within Human Resources, the Human Resources Specialist and Human Resources Technician are considered variable costs. With additional development, staff would be added to the Human Resources after these positions reached capacity.

Figure A-19: Allocation of Human Resources Staffing

	FY 2009 FTE Positions	Project Using Which Demand Base?
Category		
Human Resources Director	1.0	FIXED
Assistant Human Resources Director	1.0	FIXED
Human Resources Specialist/Technician	2.0	POP AND JOBS
Clerk Typist II	1.0	FIXED
Temporary Project Administrator	0.5	FIXED
Temporary HR Assistant	0.8	FIXED

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Human Resources Director	$107,727	37%	$147,597
Assistant Human Resources Director	$70,220	37%	$96,208
Human Resources Specialist/Technician	$48,044	37%	$65,825
Clerk Typist II	$37,251	37%	$51,038
Temporary Project Administrator	$29,568	37%	$40,511
Temporary HR Assistant	$43,181	37%	$59,162

An additional exception is the allocation of transfers to the Police and Fire Pension Funds within the Finance Department budget, which are allocated based on the increase in calls for service.

Figure A-20: Police and Fire Pension Funds

FINANCE: TRANSFERS			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Police Pension Fund	$3,431,243	TOTAL POLICE CALLS	$54.41
Fire Pension Fund	$2,960,445	TOTAL FIRE CALLS	$422.92

B. Public Works

Operating expenses within the Department of Public Works includes Administration, Traffic and Lighting, Building Services, Environmental Services, Streets, Concrete, Engineering Services, Asphalt, Forestry, and Emergency Operations. Costs within each of these areas are allocated based on its function.

Because Administration manages the centralized functions of the department, its operating costs will increase with an increase in population and jobs as will variable staffing.

Figure A-21: Public Works Administration

ADMINISTRATION			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$663,484	SEE BELOW	$0.00
Commodities	$133,512	POP AND JOBS	$1.16
Contractual Services	$123,256	POP AND JOBS	$1.07
Capital Outlays	$92,532	POP AND JOBS	$0.80
TOTAL	$1,012,784		

	FY 2009 FTE Positions	Project Using Which Demand Base?
Category		
Public Works Director	1.0	FIXED
Administrative Services Manager	1.0	FIXED
Secretary I/II	2.0	FIXED
Account Clerk II	1.0	FIXED
Purchasing Technician	0.8	POP AND JOBS
Office Worker II	1.0	FIXED
Clerk Typist II	1.0	FIXED
Management Analyst	0.5	POP AND JOBS
Administrative Services Supervisor	0.3	POP AND JOBS

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Public Works Director	$120,158	28%	$153,802
Administrative Services Manager	$77,473	28%	$99,165
Secretary I/II	$41,101	37%	$56,308
Account Clerk II	$38,709	37%	$53,031
Purchasing Technician	$43,115	37%	$59,068
Office Worker II	$35,838	28%	$45,873
Clerk Typist II	$37,251	37%	$51,034
Management Analyst	$55,039	37%	$75,403
Administrative Services Supervisor	$57,759	28%	$73,931

Traffic and Lighting's operating expenses and staffing, except for the Supervisor, will increase with an increase in the number of vehicle trips on the City's transportation network. As trips are added to the transportation network, Traffic and Lighting will be required to provide a greater capacity of maintenance to the City's signs, signals, and lighting.

Figure A-22: Public Works Traffic and Lighting

TRAFFIC & LIGHTING			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$729,339	SEE BELOW	$0.00
Commodities	$129,930	VEHICLE TRIPS	$0.48
Contractual Services	$464,040	VEHICLE TRIPS	$1.73
Capital Outlays	$88,000	VEHICLE TRIPS	$0.33
TOTAL	$1,411,309		

	FY 2009		
Category	FTE Positions	Project Using Which Demand Base?	
Traffic & Lighting Supervisor	1.0	FIXED	
Electrical Technician	4.0	VEHICLE TRIPS	
Traffic and Lighting Technician	1.0	VEHICLE TRIPS	
Sign Maintenance Worker II	3.0	VEHICLE TRIPS	

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Traffic & Lighting Supervisor	$73,725	37%	$101,003
Electrical Technician	$49,889	37%	$68,348
Traffic and Lighting Technician	$53,955	37%	$73,919
Sign Maintenance Worker II	$46,717	37%	$64,002

Figures A-23, A-24, and A-25 show the LOS standards for Building Services, Environmental Services, and Operations Administration. Both Building Services and Operations Administration provide services within the City and Department including facility maintenance and responding to citizen requests. Environmental Services primarily manages the City's recycling program and yard waste collection. Thus, the levels of service for these operating funds are found using population and jobs.

TischlerBise
Fiscal, Economic & Planning Consultants

Figure A-23: Public Works Building Services

BUILDING SERVICES			LOS Std
Expenditure	FY 2009	Project Using	$ per
Name	Budget Amount	Which Demand Base?	Demand Unit
Personnel Services	$268,569	SEE BELOW	$0.00
Commodities	$21,355	POP AND JOBS	$0.19
Contractual Services	$663,841	POP AND JOBS	$5.76
TOTAL	$953,765		

	FY 2009		
	FTE	Project Using	
Category	Positions	Which Demand Base?	
Building and Grounds Supervisor	1.0	FIXED	
Special Services Maintenance Worker I	1.0	FIXED	
Special Services Worker	1.0	POP AND JOBS	
Facility Specialist	1.0	POP AND JOBS	

	Avg Salary /	Benefits	LOS Std
	Staff Member	Multiplier	Total Cost
Building and Grounds Supervisor	$57,759	37%	$79,129
Special Services Maintenance Worker I	$42,214	37%	$57,833
Special Services Worker	$33,218	37%	$45,508
Facility Specialist	$53,955	37%	$73,919

Figure A-24: Public Works Environmental Services

ENVIRONMENTAL SERVICES			LOS Std
Expenditure	FY 2009	Project Using	$ per
Name	Budget Amount	Which Demand Base?	Demand Unit
Contractual Services	$366,874	POP AND JOBS	$3.19

Figure A-25: Public Works Operations Administration

OPERATIONS ADMINISTRATION			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$219,955	SEE BELOW	$0.00
Commodities	$7,400	POP AND JOBS	$0.06
Contractual Services	$22,540	POP AND JOBS	$0.20
TOTAL	$249,895		

Category	FY 2009 FTE Positions	Project Using Which Demand Base?
Operations Manager	1.0	FIXED
Secretary I	1.0	FIXED

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Operations Manager	$77,473	28%	$99,165
Secretary I	$39,086	37%	$53,548

The level of service for street maintenance expenses that must be done by the Streets division of Public Works is found using vehicle trips, as the addition of trips to the network will increase the needed maintenance.

Figure A-26: Public Works Streets

STREETS			LOS Std
Expenditure	FY 2009	Project Using	$ per
Name	Budget Amount	Which Demand Base?	Demand Unit
Personnel Services	$614,607	SEE BELOW	$0.00
Commodities	$49,083	VEHICLE TRIPS	$0.18
Contractual Services	$75,485	VEHICLE TRIPS	$0.28
TOTAL	$739,175		

	FY 2009	
	FTE	Project Using
Category	Positions	Which Demand Base?
Street Supervisor	1.0	FIXED
Street Maintenance Workers	7.0	FIXED

	Avg Salary /	Benefits	LOS Std
	Staff Member	Multiplier	Total Cost
Street Supervisor	$66,866	37%	$91,606
Street Maintenance Workers	$42,214	37%	$57,833

The Concrete operating expenses will increase with an increase in lane miles because as lane miles increase, the length of sidewalks to be maintained will also.

Figure A-27: Public Works Concrete

CONCRETE			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$655,769	SEE BELOW	$0.00
Commodities	$131,139	LANE MILES	$191.86
Contractual Services	$2,140	LANE MILES	$3.13
TOTAL	$789,048		

Category	FY 2009 FTE Positions	Project Using Which Demand Base?
Concrete Supervisor	1.0	FIXED
Concrete Maintenance Workers	8.0	FIXED

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Concrete Supervisor	$66,866	37%	$91,606
Concrete Maintenance Workers	$42,214	37%	$57,833

TischlerBise
Fiscal, Economic & Planning Consultants

The level of service for Engineering operating expenses is found using population and jobs.

Figure A-28: Public Works Engineering Services

ENGINEERING SERVICES			LOS Std
Expenditure	FY 2009	Project Using	$ per
Name	Budget Amount	Which Demand Base?	Demand Unit
Personnel Services	$2,073,698	SEE BELOW	$0.00
Commodities	$19,092	POP AND JOBS	$0.17
Contractual Services	$75,552	POP AND JOBS	$0.66
TOTAL	$2,168,342		

	FY 2009	
	FTE	Project Using
Category	Positions	Which Demand Base?
City Engineer	1.0	FIXED
Assistant City Engineer	3.0	FIXED
Engineers I, II, III	5.0	POP AND JOBS
Engineering Technicians II, III	9.0	POP AND JOBS
Secretary I	1.0	FIXED
Temp. Engineering Intern	1.5	FIXED
Temp. Clerical	0.5	FIXED
Temp. Engineering Technician Co-op Intern	2.6	FIXED

	Avg Salary /	Benefits	LOS Std
	Staff Member	Multiplier	Total Cost
City Engineer	$94,127	28%	$120,483
Assistant City Engineer	$77,473	28%	$99,165
Engineers I, II, III	$70,715	28%	$90,515
Engineering Technicians II, III	$49,943	28%	$63,926
Secretary I	$39,086	37%	$53,548
Temp. Engineering Intern	$25,709	0%	$25,709
Temp. Clerical	$24,190	0%	$24,190
Temp. Engineering Technician Co-op Intern	$30,613	0%	$30,613

Asphalt operating expenses are allocated using vehicle trips because needed repairs to the road network will be needed with additional trips.

Figure A-29: Public Works Asphalt

| ASPHALT | | | LOS Std |
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$413,658	SEE BELOW	$0.00
Commodities	$71,769	VEHICLE TRIPS	$0.27
Contractual Services	$52,738	VEHICLE TRIPS	$0.20
TOTAL	$538,165		

| | FY 2009 | | |
Category	FTE Positions	Project Using Which Demand Base?	
Asphalt Supervisor	1.0	FIXED	
Asphalt Maintenance Worker	5.0	FIXED	

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Asphalt Supervisor	$66,686	37%	$91,360
Asphalt Maintenance Worker	$44,200	37%	$60,554

The level of service for Forestry operating expenses is found using population and jobs.

Figure A-30: Public Works Forestry

FORESTRY			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$463,796	SEE BELOW	$0.00
Commodities	$54,756	POP AND JOBS	$0.48
Contractual Services	$9,488	POP AND JOBS	$0.08
TOTAL	$528,040		

Category	FY 2009 FTE Positions	Project Using Which Demand Base?
Forestry Supervisor	1.0	FIXED
Arborist	5.0	POP AND JOBS

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Forestry Supervisor	$66,686	37%	$91,360
Arborist	$47,913	37%	$65,641

Emergency Operations expenses will increase with an increase of lane miles because as new lane miles are added to the network, they will require snow removal. Personnel services within this function pay for the overtime for staff involved in snow removal.

Figure A-31: Public Works Emergency Operations

EMERGENCY OPERATIONS			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$85,637	LANE MILES	$125.29
Commodities	$200,554	LANE MILES	$293.42
Contractual Services	$31,534	LANE MILES	$46.14
TOTAL	$317,725		

Additionally, a custom entry has been made for Public Works maintenance workers. In the above sections, all maintenance works were held fixed because the need for additional Public Works maintenance works is driven by snow removal (except those in Traffic and Lighting, which do not participate in snow removal). In interviews with the Public Works Department, it

was estimated that one additional maintenance worker will be needed for every 21 additional lane miles added to the road network in the City. Thus, a custom direct entry line has been added to reflect the current 32 workers used for snow removal and the fact that each worker can remove snow from 21 lane miles. Thus, with the addition of 21 more lane miles to the network, the need for an additional maintenance worker will be triggered in the model. Note that this direct entry for maintenance works is for the department as a whole.

C. Police

Police Department operating expenditures include Administration, Investigations, Operations, Training, Records, Contingency Staffing, DUI Funds, Animal Control, and grant programs. The growth of many police operating expenditures are projected using a level of service determined by dividing FY2009 budget amounts by total calls; the total calls for service from 2008 of 63,066 is used for these calculations. For example, the FY2009 budget amount for Police Administration Commodities is $44,483; the level of service is $0.71 ($44,483 / 63,066 = $0.71). This number represents the amount that Police Administration Commodities will increase with each additional call for service. Each level of service number is used to determine the additional cost of providing that service to an additional housing unit or nonresidential development.

First, the total number of calls for service from 2008 must be broken down by residential and nonresidential calls for service as shown in Figure A-32 below. This breakdown is based on a sample of calls taken from September 1-8, 2008. This sample indicates that 69.2% of all calls for service originate at residential land uses while 30.8% originate at nonresidential land uses. Thus, 43,628 of the 2008 calls for service can be attributed to residential units (63,066 x 69.2% = 43,628). These residential calls are then divided by the total population of 75,254 to get a calls per person factor of 0.58.

This 0.58 calls per person will be used together with the levels of service to determine the cost of providing police services to each type of housing unit being considered in the fiscal study. For example, the $0.71 level of service for Police Administration Commodities can be multiplied by the 0.58 calls per person and 1.78 persons per attached housing unit to determine that each additional attached housing unit developed in the City will result in an additional $0.73 in Police Administration Commodities expenditures.

The same calculation is repeated for nonresidential calls using nonresidential vehicle trips to generate a calls per nonresidential trip factor of 0.07. This can be multiplied by the 18.35 trip generation rate and 50% trip adjustment factor for a thousand square feet of office space as well as the $0.71 level of service for Police Administration Commodities to determine that one thousand additional square feet of office space will generate $0.456. Thus, a 10,000 square foot office space will generate $4.56 in Police Administration Commodities expenditures.

Figure A-32: Police Calls for Service

Police Calls for Service Data (1)		
Land Use	**2008**	**Percent**
Residential	43,628	69.2%
Nonresidential	19,438	30.8%
TOTAL CALLS FOR SERVICE	**63,066**	**100.0%**
Calls for Service Projection Factors		
Current Population		75,254
Current Nonresidential Vehicle Trips		268,693
Calls per Capita		0.58
Calls per Nonres. Trip		0.07

(1) Based on information provided by the Police Department. Includes
only calls that can be classified by land use.

The table below shows that non-salary Police Administration expenditures are expected to increase with additional calls for service. For example, contractual service expenditures will increase by $3.01 with each new call for service. Staffing other than the Chief and Deputy Chief is expected to increase when police officers are added to the force.

TischlerBise
Fiscal, Economic & Planning Consultants

Figure A-33: Police Administration

ADMINISTRATION			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$982,050	SEE BELOW	$0.00
Commodities	$44,483	TOTAL POLICE CALLS	$0.71
Contractual Services	$189,823	TOTAL POLICE CALLS	$3.01
Capital Outlays	$400,022	TOTAL POLICE CALLS	$6.34
TOTAL	$1,616,378		

	FY 2009 FTE Positions	Project Using Which Demand Base?
Category		
Chief of Police	1.0	FIXED
Deputy Police Chief	3.0	FIXED
Police Account Clerk II	2.0	TOTAL POLICE OFFICERS
Assistant for Community Services	1.0	TOTAL POLICE OFFICERS
Secretary II	1.0	TOTAL POLICE OFFICERS
Police Investigations Sergeant	1.0	TOTAL POLICE OFFICERS
Office Worker II	1.0	TOTAL POLICE OFFICERS

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Chief of Police	$120,158	70%	$204,424
Deputy Police Chief	$94,127	70%	$160,138
Police Account Clerk II	$40,258	70%	$68,492
Assistant for Community Services	$58,738	70%	$99,931
Secretary II	$43,115	70%	$73,352
Police Investigations Sergeant	$71,903	70%	$122,329
Office Worker II	$38,709	70%	$65,855

Similar to Police Administration expenditure allocation, Investigations' commodities and contractual services expenditures are projected to increase with additional residential and nonresidential calls for service. Commodities expenditures will increase $0.77 and contractual service $0.39 with each additional call for service.

Within investigations, Lieutenant and Sergeant positions are expected to increase with additional police officers while the staffing positions are expected to increase marginally with additional calls for service.

Figure A-34: Police Investigations

INVESTIGATIONS			LOS Std
Expenditure	FY 2009	Project Using	$ per
Name	Budget Amount	Which Demand Base?	Demand Unit
Personnel Services	$2,043,112	SEE BELOW	$0.00
Commodities	$48,775	TOTAL POLICE CALLS	$0.77
Contractual Services	$24,736	TOTAL POLICE CALLS	$0.39
TOTAL	$2,116,623		

	FY 2009	
	FTE	Project Using
Category	Positions	Which Demand Base?
Police Lieutenant	1.0	TOTAL POLICE OFFICERS
Police Investigations Sergeant	2.0	TOTAL POLICE OFFICERS
Assigned Police Officer	17.0	CITYWIDE POLICE CALLS
Crime Analyst	1.0	CITYWIDE POLICE CALLS
Office Worker II	3.0	CITYWIDE POLICE CALLS

	Avg Salary /	Benefits	LOS Std
	Staff Member	Multiplier	Total Cost
Police Lieutenant	$81,311	70%	$138,334
Police Investigations Sergeant	$76,042	70%	$129,369
Assigned Police Officer	$58,625	70%	$99,739
Crime Analyst	$52,379	70%	$89,112
Office Worker II	$38,709	70%	$65,855

Commodities and Contractual Service expenditures within Police Operations are also projected to increase with additional residential and nonresidential police calls for service. Like the expected staffing increases within Investigations, additional staffing for the Lieutenant and Sergeant positions are expected to increase with additional police officers while Assigned Officer and K-9 Officer positions are tied to the increase in calls for service.

The need for new Officer positions are forecasted with a custom methodology. In interviews with the Police Department, it was evident that when development, particularly retail development, occurs in the southwestern part of the City (areas E: Southwest Champaign and F: Curtis Road Interchange), there will be an almost immediate need for a new police beat in this area. Thus, when the model considers the Southwest Champaign and Curtis Road Interchange areas, a new beat (6 new officers) is created when 25% of this area is developed. The added capacity of this new beat is taken into consideration when calculating the need for new Officers based on increased calls for service. Thus, these new Officers must reach capacity before any additional new officers are triggered by the model in this area. For all other

29

development areas (A: Olympian and Prospect, B: Olympian Extended, C: Bradley and Staley, D: Staley and Kirby, and G: Infill), new Officer positions are created when the areas generate enough new calls for service that the existing officers and the new beat officers in Southwest Champaign and Curtis Road Interchange areas are at capacity.

Figure A-35: Police Operations

OPERATIONS			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$7,790,415	SEE BELOW	$0.00
Commodities	$134,077	TOTAL POLICE CALLS	$2.13
Contractual Services	$107,883	TOTAL POLICE CALLS	$1.71
TOTAL	$8,032,375		

	FY 2009	
Category	FTE Positions	Project Using Which Demand Base?
Lieutenant	4.0	TOTAL POLICE OFFICERS
Sergeant	15.0	TOTAL POLICE OFFICERS
Officer/Assigned Officer	72.0	CITYWIDE POLICE CALLS
K-9 Officer	2.0	CITYWIDE POLICE CALLS
Area E/F Additional Officers	6.0	DIRECT ENTRY

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Lieutenant	$81,311	70%	$138,334
Sergeant	$74,187	70%	$126,214
Officer/Assigned Officer	$54,713	70%	$93,083
K-9 Officer	$58,625	70%	$99,739
Area E/F Additional Officers	$54,713	70%	$93,083

Police Training and Police Records expenditures are also forecast based on the increase in total police calls as shown in Figures A-36 and A-37 below. With each additional call for service, training expenditures will increase $1.51 while non-staff records expenditures will increase $0.38. Records staffing will also increase with additional calls for service while Training staffing will increase with the addition of police officers.

TischlerBise
Fiscal, Economic & Planning Consultants

Figure A-36: Police Training

TRAINING			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$254,047	SEE BELOW	$0.00
Commodities	$24,700	TOTAL POLICE CALLS	$0.39
Contractual Services	$70,777	TOTAL POLICE CALLS	$1.12
TOTAL	$349,524		

Category	FY 2009 FTE Positions	Project Using Which Demand Base?
Sergeant	1.0	TOTAL POLICE OFFICERS
Network Administrator	1.0	FIXED

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Sergeant	$74,187	70%	$126,214
Network Administrator	$55,039	70%	$93,637

Figure A-37: Police Records

RECORDS			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$1,535,152	SEE BELOW	$0.00
Commodities	$13,442	TOTAL POLICE CALLS	$0.21
Contractual Services	$10,595	TOTAL POLICE CALLS	$0.17
TOTAL	$1,559,189		

	FY 2009 FTE	
Category	Positions	Project Using Which Demand Base?
Records Manager	1.0	FIXED
Records Supervisor	2.0	CITYWIDE POLICE CALLS
Property Evidence Technician	1.5	CITYWIDE POLICE CALLS
Information Resource Specialists	7.0	CITYWIDE POLICE CALLS
Services Representatives	10.0	CITYWIDE POLICE CALLS
Traffic Services Officer	1.0	CITYWIDE POLICE CALLS
Temporary Crossing Guard	4.1	FIXED

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Records Manager	$55,039	70%	$93,637
Records Supervisor	$52,379	70%	$89,051
Property Evidence Technician	$43,115	70%	$73,352
Information Resource Specialists	$38,709	70%	$65,855
Services Representatives	$37,242	70%	$63,360
Traffic Services Officer	$35,838	70%	$60,972
Temporary Crossing Guard	$24,024	70%	$40,872

Contingency staffing is also expected to increase with additional calls for service. DUI Funds expenditures are variable based on the increase in vehicle trips driven on the City's road network. Animal Control expenses are expected to increase with new residential development by $2.11 per person. All expected grant funding (FEMA, IDOT, Byrne, etc.) is held fixed.

TischlerBise
Fiscal, Economic & Planning Consultants

D. Fire

Fire Department operating expenditures include Administration, Building Safety, Training, Suppression, Prevention, Emergency Management, and the Safer Act Grant.

The levels of service for Fire Administration commodities, contractual services, and capital outlays are found by dividing the FY2009 budget amounts by Fire Chief's estimate of 7,000 calls for service annually. Staffing is held fixed. The total LOS for Fire Administration is $40.20 per call as shown in Figure A-38 below.

Figure A-38: Fire Administration

ADMINISTRATION			LOS Std
Expenditure	FY 2009	Project Using	$ per
Name	Budget Amount	Which Demand Base?	Demand Unit
Personnel Services	$272,625	FIXED	$0.00
Commodities	$12,920	TOTAL FIRE CALLS	$1.85
Contractual Services	$51,826	TOTAL FIRE CALLS	$7.40
Capital Outlays	$216,626	TOTAL FIRE CALLS	$30.95
TOTAL	$553,997		

ADMINISTRATION STAFFING INPUT		
	FY 2009	
	FTE	Project Using
Category	Positions	Which Demand Base?
Fire Chief	1.0	FIXED
Secretary	2.0	FIXED

Because a breakdown of residential versus nonresidential fire calls is not available, the calls are broken down using the proportionate share as shown in Figure A-39 below. The 0.08 calls per person are found by multiplying the 84.1% residential share by the 7,000 total calls and dividing by the population (7,000 x 84.1% / 75,254 = 0.08). The calculation is repeated using nonresidential vehicle trips for the nonresidential factor: 7,000 calls x 15.9% / 140,612 trips = 0.01 calls per nonresidential trips.

Figure A-39: Fire Call Factors

Fire/Rescue Calls for Service Data (1)

Land Use	FY2009	Percent
Residential Land Uses	5,886	84.1%
Nonresidential Land Uses	1,114	15.9%
TOTAL CALLS FOR SERVICE	**7,000**	**100.0%**

Calls for Service Projection Factors

Current Population	75,254
Current Nonresidential Vehicle Trips	140,612
Calls per Capita	0.08
Calls per Nonres. Trip	0.01

(1) Total calls from Fire Department. Allocated between
Residential and Nonresidential using proportionate share.

Using the same methodology as police, these factors together with the levels of service are used to determine the Fire Administration expenses generated by housing unit and nonresidential developments. For example, an attached housing unit averages 1.78 persons per household in Champaign. Thus, one attached housing unit generates $0.72 in additional Fire Administration operating expenditures ($40.20 in expenditures per call x 0.08 calls per person x 1.78 persons per household = $0.72). The same methodology is followed for nonresidential development. A 50,000 square foot office building generates $184.42 in additional Fire Administration operating expenditures: $40.20 in expenditures per call x 0.01 calls per nonresidential trip x 9.175 trips per thousand square feet of office space x 50 thousand square feet of office space = $184.42.

The levels of service for Building Safety operating expenditures are found by dividing the FY2009 budget amounts by the population and jobs as shown in Figure A-40. Building safety operating expenses are one-time expenses that are incurred at the time of safety inspection; thus, the fiscal model treats them as one-time rather than cumulative. Building Safety staffing is likewise treated as a one-time expense rather than marginally adding new positions; using this methodology, the staff portion of the cost of providing building safety inspections is captured with the development of each new housing unit and nonresidential development.

Figure A-40: Building Safety

BUILDING SAFETY			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$1,051,932	POP AND JOBS	$9.13
Commodities	$13,442	POP AND JOBS	$0.12
Contractual Services	$13,321	POP AND JOBS	$0.12
TOTAL	$1,078,695		

BUILDING SAFETY STAFFING INPUT

Category	FY 2009 FTE Positions	Project Using Which Demand Base?
Building Safety Supervisor	1.0	FIXED
Plan Reviewer	2.0	FIXED
Plumbing and Mechanical Systems Inspecto	3.0	FIXED
Electrical Inspector	1.0	FIXED
Building Safety Inspector	3.0	FIXED
Secretary I	1.0	FIXED
Clerk Typist	1.0	FIXED

Fire Training operating expenses are expected to increase with fire calls for service. Thus, the level of service is found using this factor. Staffing is held constant.

Figure A-41: Fire Training

TRADING			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$108,460	SEE BELOW	$0.00
Commodities	$3,400	TOTAL FIRE CALLS	$0.49
Contractual Services	$24,072	TOTAL FIRE CALLS	$3.44
TOTAL	$135,932		

TRAINING STAFFING INPUT		
Category	FY 2009 FTE Positions	Project Using Which Demand Base?
Deputy Fire Chief	1.0	FIXED

Fire Suppression commodities and contractual services' LOS are found by dividing the FY2009 budgeted amounts by total fire calls. There are also several direct entry line items for Fire Suppression as well.

A new fire company is needed when the new fire station in the northwest area of the City is triggered by new development in Scenario Two (Growth **Beyond** the Service Area). This occurs when 30% of new development within the two areas serviced by the new station (areas B: Olympian Extended and C: Bradley and Staley) is reached in FY2017. The costs are split between the Olympian and Prospect (B) and Bradley and Staley (C) areas with 57% of the costs allocated to Olympian and Prospect (B) and 43% to Bradley and Staley (C) based on the amount of development expected in each area.

With development in Areas E: Southwest Champaign and F: Curtis Road Interchange, the Chief anticipates the need for one additional fire fighter per shift. This additional staffing is triggered when 30% of the expected development in these areas occurs in FY2015 in Scenario One (Growth **Within** the Service Area) and in FY2017 Scenario Two (Growth **Beyond** the Service Area). The costs are split in Scenario One with 85% allocated to Southwest Champaign (E) and 67% to Southwest Champaign (E) in Scenario Two based on the amount of development expected in each area.

Figure A-42: Fire Suppression

SUPPRESSION

Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	LOS Std $ per Demand Unit
Personnel Services	$8,428,332	SEE BELOW	$0.00
Commodities	$171,971	TOTAL FIRE CALLS	$24.57
Contractual Services	$72,257	TOTAL FIRE CALLS	$10.32
New Company Sc 2, New Station--One Time	$0	DIRECT ENTRY	$1,800,000
New Company Sc 2, New Station--Recurring	$0	DIRECT ENTRY	$1,200,000
TOTAL	$8,672,560		

Category	FY 2009 FTE Positions	Project Using Which Demand Base?
Deputy Fire Chief	1.0	FIXED
Captain	6.0	FIXED
Lieutenant	24.0	FIXED
Engineer	27.0	FIXED
Fighter	45.0	FIXED
New Fighter per shift in E/F	3.0	DIRECT ENTRY

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Deputy Fire Chief	$94,127	78%	$167,301
Captain	$72,746	78%	$129,299
Lieutenant	$61,677	78%	$109,625
Engineer	$54,828	78%	$97,451
Fighter	$51,590	78%	$91,696
New Fighter per shift in E/F	$51,590	78%	$91,696

TischlerBise
Fiscal, Economic & Planning Consultants

Fire prevention operating expenses are expected to increase with an increase in population.

Figure A-43: Fire Prevention

PREVENTION			LOS Std
Expenditure	FY 2009	Project Using	$ per
Name	Budget Amount	Which Demand Base?	Demand Unit
Personnel Services	$413,206	SEE BELOW	$0.00
Commodities	$72,677	POPULATION	$0.97
Contractual Services	$4,921	POPULATION	$0.07
TOTAL	$490,804		

	FY 2009		
	FTE	Project Using	
Category	Positions	Which Demand Base?	
Deputy Fire Chief	1.0	FIXED	
Deputy Fire Marshall	2.0	FIXED	
Education/Information Specialist	1.0	POPULATION	

	Avg Salary /	Benefits	LOS Std
	Staff Member	Multiplier	Total Cost
Deputy Fire Chief	$94,127	78%	$167,546
Deputy Fire Marshall	$56,309	78%	$100,230
Education/Information Specialist	$57,759	78%	$102,810

Emergency Management operating expenditures are expected to increase with an increase in population and jobs; staffing is held constant.

Figure A-44: Emergency Management

EMERGENCY MANAGEMENT			LOS Std
Expenditure	FY 2009	Project Using	$ per
Name	Budget Amount	Which Demand Base?	Demand Unit
Personnel Services	$2,689	SEE BELOW	$0.00
Commodities	$13,717	POP AND JOBS	$0.12
Contractual Services	$23,909	POP AND JOBS	$0.21
TOTAL	$40,315		

EMERGENCY MANAGEMENT STAFFING INPUT		
	FY 2009	
	FTE	Project Using
Category	Positions	Which Demand Base?
Research Intern	0.1	FIXED

The Safer Act grant operating expenses are held constant.

E. Neighborhood Services

Variable costs within Neighborhood Services are allocated by population, as all of this department's programs work with the residential community. The levels of service can be seen in Figure A-45 below.

Figure A-45: Neighborhood Services

NEIGHBORHOOD SERVICES: ADMINISTRATION			LOS Std
Expenditure	FY 2009	Project Using	$ per
Name	Budget Amount	Which Demand Base?	Demand Unit
Personnel Services	$339,250	SEE BELOW	$0.00
Commodities	$6,622	POPULATION	$0.09
Contractual Services	$21,025	POPULATION	$0.28
TOTAL	$366,897		

TischlerBise
Fiscal, Economic & Planning Consultants

Category	FY 2009 FTE Positions	Project Using Which Demand Base?
Neighborhood Services Director	1.0	FIXED
Neighborhood Services Coordinator	1.0	POPULATION
Clerk Typist II/Secretary I	2.0	FIXED

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Neighborhood Services Director	$107,727	37%	$147,586
Neighborhood Services Coordinator	$70,220	37%	$96,201
Clerk Typist II/Secretary I	$38,169	37%	$52,291

NEIGHBORHOOD SERVICES: PROPERTY MAINTENANCE

Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	LOS Std $ per Demand Unit
Personnel Services	$541,908	SEE BELOW	$0.00
Commodities	$3,272	POPULATION	$0.04
Contractual Services	$8,413	POPULATION	$0.11
TOTAL	$553,593		

Category	FY 2009 FTE Positions	Project Using Which Demand Base?
Supervisor	1.0	FIXED
Inspector	4.0	POPULATION
Temporary Research Intern	1.0	FIXED

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Supervisor	$70,220	37%	$96,201
Inspector	$59,738	37%	$81,840
Temporary Research Intern	$25,709	37%	$35,221

VI.   SPECIAL FUNDS EXPENDITURES

Special Funds that have operating expenditures include the Urban Renewal Fund and Library Funds. Note that expenses within the Motor Fuel Tax Fund are all capital expenditures.

A. Urban Renewal Fund Operating Expenditures

Because the Urban Renewal Fund's operating expenses fund neighborhood programs, these expenses are expected to growth with an increase in population.

Figure A-46: Urban Renewal Fund Operating Expenses

URBAN RENEWAL FUND			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Operating Budget	$651,648	POPULATION	$8.66

B. Library Operating Expenditures

Both the Library Operating Fund and Other Library Funds contain operating expenditures. The levels of service for library operating expenditures are based on population. The Library Improvements Fund has no operating expenditures while the Library Tax Account has only the transfer of property tax revenues from this account to the operating fund; this transfer is held constant, as the revenue level of service has already been calculated in the revenue section and expenditure levels of service are calculated within the Library Operating Fund.

Note that staffing expenses for the Librarians, Library Associates, Library Assistants, Technical Assistants, and Library Pages are considered variable because it is estimated that these positions are nearing capacity and more will be required as the City grows.

Figure A-47: Library Operations

LIBRARY OPERATIONS			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$4,710,607	SEE BELOW	$0.00
Commodities	$908,512	POPULATION	$12.07
Contractual Services	$693,447	POPULATION	$9.21
Debt Service	$278,615	POPULATION	$3.70
Interfund Transfers (to Other Fund	$233,174	FIXED	$0.00
TOTAL	$6,824,355		

Category	FY 2009 FTE Positions	Project Using Which Demand Base?
Service Manager	1.9	FIXED
Librarian	15.4	POPULATION
Library Assistant	19.4	POPULATION
Library Director	1.0	FIXED
Assistant Library Director	1.0	FIXED
Accounting Manager	0.8	FIXED
Automation Manager	1.0	FIXED
Promotional Services Coordinator	1.0	FIXED
Page Supervisor	1.0	FIXED
Administrative Secretary	1.9	FIXED
Library Associate	9.9	POPULATION
Maintenance Supervisor	1.0	FIXED
Security Supervisor	1.0	FIXED
Technical Assistant	5.4	POPULATION
Bookmobile Driver/Clerk	2.0	FIXED
Maintenance Worker	1.0	FIXED
Library Pages	9.6	POPULATION
Janitor	6.3	FIXED
Security Officer	2.5	FIXED

	Avg Salary / Staff Member	Benefits Multiplier	LOS Std Total Cost
Service Manager	$60,489	37%	$82,870
Librarian	$52,287	37%	$71,633
Library Assistant	$32,069	37%	$43,935
Library Director	$114,150	37%	$156,386
Assistant Library Director	$81,107	37%	$111,117
Accounting Manager	$54,871	37%	$75,173
Automation Manager	$0	37%	$0
Promotional Services Coordinator	$52,287	37%	$71,633
Page Supervisor	$47,387	37%	$64,920
Administrative Secretary	$45,128	37%	$61,825
Library Associate	$42,843	37%	$58,695
Maintenance Supervisor	$42,843	37%	$58,695
Security Supervisor	$42,843	37%	$58,695
Technical Assistant	$40,960	37%	$56,115
Bookmobile Driver/Clerk	$40,960	37%	$56,115
Maintenance Worker	$35,389	37%	$48,483
Library Pages	$18,335	37%	$25,119
Janitor	$30,572	37%	$41,884
Security Officer	$30,572	37%	$41,884

Operating expenses within other Library Funds are also expected to increase with an increase in population.

Figure A-48: Library Other Funds

LIBRARY OTHER FUNDS			LOS Std
Expenditure Name	FY 2009 Budget Amount	Project Using Which Demand Base?	$ per Demand Unit
Personnel Services	$8,620	FIXED	$0.00
Commodities	$150,127	POPULATION	$1.99
Contractual Services	$103,917	POPULATION	$1.38
Capital Outlays	$222,575	POPULATION	$2.96
TOTAL	$485,239		

VII. CAPITAL EXPENDITURES

This section discusses growth-related capital facility needs by governmental function. Growth-related facilities are those projects that are necessitated purely by new development occurring within the City. This analysis does not include replacement facilities, renovation projects, or projects that will be constructed regardless of whether the City experiences an increase in residential and nonresidential development.

A. General Government

At the time of this analysis, there are no definitive plans for additional General Government facilities. However, unless additional facility space is provided over the twenty-year analysis period, the level of service will decrease. Therefore, TischlerBise has calculated the additional square footage that would be required to maintain the current level of service.

The City of Champaign's General Government offices are located in the City Building's 52,815 square feet of space. Because General Government functions benefit both residential and nonresidential development, the level of service for general government facilities is found by dividing this total square footage by the total population and jobs of 115,160; thus, the current level of service is 0.46 square feet per person/job in the City. As shown in Figure A-49, to maintain this level of service, the City would need to add 13,076 square feet of space under the conditions of Scenario One (Growth **Within** the Service Area) over the twenty-year timeframe and 13,917 square feet of space under the conditions of Scenario Two (Growth **Beyond** the Service Area).

Figure A-49: General Government Facility Space Needs

	Scenarios	
Fiscal Area Zone	**Scenario One: Development Within Service Area**	**Scenario Two: Development Beyond Service Area**
	Square feet needed	
Area A: Olympian Drive & Prospect	4,310	2,886
Area B: Olympian Drive Ext.	540	2,552
Area C: Bradley Ave. & Staley Rd.	1,277	1,619
Area D: Staley Rd. & Kirby Ave.	2,796	2,731
Area E: Southwest Champaign	3,165	2,442
Area F: Curtis Rd. Interchange	498	1,197
Area G: Infill development	490	490
TOTAL SQUARE FEET	**13,076**	**13,917**

TischlerBise
Fiscal, Economic & Planning Consultants

The construction cost per square foot is assumed to be the same as the planned new Public Works building at $292 per square foot. For the Growth **Within** the Service Area scenario, the total cost of needed space is $3.8 million while it is $4.1 million for the Growth **Beyond** the Service Area Scenario.

B. Public Works

The Public Works department is planning a new facility although it is not yet funded in the City's Capital Improvement Plan. The planned building will have 57,500 square feet and will cost $292 per square foot. The department estimates that 30% of this space is needed to serve existing development while 70% will meet the demands of future development. Thus, only 70% of the space, or 40,250 square feet, is used in the fiscal study. Because there is a need for the space now, the timing of building is estimated to be FY2011-FY2012; it is assumed that this capital project will be bond-financed.

The Public Works department currently occupies the space in the Parking Building. At the time of this analysis, there are no definitive plans for adding space to this facility. However, unless additional facility space is provided over the twenty-year analysis period, the level of service will decrease. Therefore, TischlerBise has calculated the additional square footage that would be required to maintain the current level of service. Because Public Works functions benefit both residential and nonresidential development, the level of service for general government facilities is found by dividing the 8,550 total square footage by the total population and jobs of 115,160; thus, the current level of service is 0.07 square feet per person/job in the City. The City would need to add 2,117 square feet of space under the conditions of Scenario One (Growth **Within** the Service Area) over the twenty-year timeframe and 2,209 square feet of space under the conditions of Scenario Two (Growth **Beyond** the Service Area).

The need for new snow removal vehicles is based on the addition of lane miles to the City's road network. Like the demand for additional maintenance workers, one additional snow removal truck is triggered each time 21 new lane miles are added to the City's road network. Based on this level of service, 3 snow removal trucks are added to the inventory under each scenario; each has a replication cost of $137,500.

The need for other additional Public Works vehicles is calculated by assuming that the department will maintain the current level of service; thus, as there is an increase in residential and nonresidential development, additional vehicles will be added. The current levels of service for Public Works Vehicles are shown below in Figure A-50. Note that the need for additional Concrete vehicles is expected to occur when lane miles are added to the City's transportation network while Asphalt, Streets, Traffic and Lighting vehicles will increase with vehicle trips and all other Public Works vehicles will increase with additional population and jobs. The average replication cost per vehicle is also shown in Figure A-50.

Figure A-50: Public Works Vehicles Level of Service

Divisions	Current Vehicles	LOS Factors	LOS	Replication cost per unit
Concrete	12	684 lane miles	0.0176	$55,393
Asphalt, Streets, Traffic & Lighting	41	268,693 vehicle trips	0.0002	$75,356
Administration, Building Services, Engineering Services, Fleet Services, Forestry, Operations	36	115,160 population and jobs	0.0003	$31,605

Twenty-one additional vehicles are generated with these levels of service in Scenario One (Growth **Within** the Service Area) and twenty-two in Scenario Two (Growth **Beyond** the Service Area). Note that one new vehicle is generated by the Concrete division. In Scenario One (Growth **Within** the Service Area), twelve new vehicles are for Asphalts, Streets, and Traffic and Lighting while the remaining 8 are for Administration, Building Services, Engineering Services, Fleet Services, Forestry, and Operations. In Scenario Two (Growth **Beyond** the Service Area), there are 12 additional vehicles for Asphalts, Streets, and Traffic and Lighting while the remaining 9 are for Administration, Building Services, Engineering Services, Fleet Services, Forestry, and Operations.

The cost of capital road improvements and new road construction within each fiscal analysis zone and scenario is captured in the model. The road projects that are necessary to serve new development in each area under the conditions of Scenario One (Growth **Within** the Service Area), development within the existing service network, are shown in Figure A-51. Note that there are no projects for the Bradley and Staley, Curtis Road Interchange, and Infill areas in Scenario One.

TischlerBise
Fiscal, Economic & Planning Consultants

Figure A-51: Capital Road Improvements and New Road Construction for Scenario One

Street to be Improved	From	To	Lane Miles	Estimated Construction Cost for City of Champaign
Area A: Olympian Drive & Prospect Avenue				
Prospect Ave.	Interstate Dr.	Olympian Dr.	0.91	$2,600,000
Neil St.	Interstate Dr.	Olympian Dr.	1.00	$135,000
Olympian Dr.	Apollo Dr.	Lincoln Ave. (Urbana)	2.31	$375,000
Interstate Dr.	Current Terminus	Market St.	0.75	$2,000,000
Market St.	Marketview	Olympian Dr.	2.50	$7,200,000
TOTAL FOR AREA A			7.47	$12,310,000
Area B: Olympian Drive Extended/Clearview				
Mattis Ave.	Anthony Dr.	Olympian Dr.	2.00	$5,700,000
Cardinal Rd	Route 150	Staley Rd.	0.48	$1,000,000
Olympian Dr.	Western Terminus	Route 150	1.43	$1,400,000
TOTAL FOR AREA B			3.91	$8,100,000
Area D: Staley Rd. & Kirby Ave.				
Duncan Rd.	Springfield Ave.	Kirby Ave.	3.00	$4,400,000
Kirby Ave.	Duncan Rd.	Staley Rd.	2.00	$4,000,000
Kirby Ave.	Staley Rd.	Rising Rd.	2.00	$4,000,000
Windsor Rd.	I-57	Staley Rd.	1.00	$2,000,000
Windsor Rd.	Staley Rd.	Rising Rd.	2.00	$4,000,000
Rising Rd.	Windsor Rd.	Kirby Ave.	2.00	$4,000,000
TOTAL FOR AREA D			12.00	$22,400,000
Area E: Southwest Champaign				
Windsor Rd.	Duncan Rd.	Mattis Ave.	2.00	$5,700,000
Mattis Ave.	Windsor Rd.	Curtis Rd.	2.00	$4,000,000
Duncan Rd.	Curtis Rd.	Meadows West	0.97	$2,000,000
Duncan Rd.	Curtis Rd.	Savoy Limit	1.00	$2,000,000
Rising Rd.	Windsor Rd.	Curtis Rd.	2.00	$4,000,000
TOTAL FOR AREA E			7.97	$17,700,000

Because development occurs over a larger land area in Scenario Two (Growth **Beyond** the Service Area), there are additional roads projects that are undertaken within each area. The road projects that are necessary to serve new development in each area under the conditions of Scenario Two, development within and beyond the existing service network, are shown in Figure A-52. The projects unique to this scenario are highlighted.

Figure A-52: Capital Road Improvements and New Road Construction for Scenario Two

Street to be Improved	From	To	Lane Miles	Estimated Construction Cost for City of Champaign
Area A: Olympian Drive & Prospect Avenue				
Prospect Ave.	Interstate Dr.	Olympian Dr.	0.91	$2,600,000
Neil St.	Interstate Dr.	Olympian Dr.	1.00	$135,000
Olympian Dr.	Apollo Dr.	Lincoln Ave. (Urbana)	2.31	$375,000
Interstate Dr.	Current Terminus	Market St.	0.75	$2,000,000
Market St.	Marketview	Olympian Dr.	2.50	$7,200,000
Prospect Ave.	Olympian Dr.	Waxwing Rd	1.21	$2,400,000
Neil St.	Olympian Dr.	Ford Harris Rd.	2.00	$4,100,000
Market St.	Olympian Dr.	Ford Harris Rd.	2.00	$4,000,000
TOTAL FOR AREA A			12.68	$22,810,000
Area B: Olympian Drive Extended/Clearview				
Mattis Ave.	Anthony Dr.	Olympian Dr.	2.00	$5,700,000
Cardinal Rd	Route 150	Staley Rd.	0.48	$1,000,000
Olympian Dr.	Western Terminus	Route 150	1.43	$1,400,000
Mattis Ave.	Olympian Dr.	Ford Harris Rd.	2.00	$4,200,000
Cardinal Rd	Staley Rd.	Rising Rd.	2.00	$4,000,000
Duncan Rd.	I-57	Route 150	1.78	$3,500,000
TOTAL FOR AREA B			9.70	$19,800,000
Area C: Bradley Ave. & Staley Rd.				
Bradley Ave.	Staley Rd.	Rising Rd.	2.00	$4,000,000
Rising Rd.	Springfield Ave.	Cardinal Rd.	4.00	$8,000,000
Staley Rd.	Springfield Ave.	US Route 150	Improvements	$3,000,000
TOTAL FOR AREA C			6.00	$15,000,000
Area D: Staley Rd. & Kirby Ave.				
Duncan Rd.	Springfield Ave.	Kirby Ave.	3.00	$4,400,000
Kirby Ave.	Duncan Rd.	Staley Rd.	2.00	$4,000,000
Kirby Ave.	Staley Rd.	Rising Rd.	2.00	$4,000,000
Windsor Rd.	I-57	Staley Rd.	1.00	$2,000,000
Windsor Rd.	Staley Rd.	Rising Rd.	2.00	$4,000,000
Rising Rd.	Windsor Rd.	Kirby Ave.	2.00	$4,000,000
Rising Rd.	Kirby Ave.	Springfield Ave.	2.00	$4,000,000
TOTAL FOR AREA D			12.00	$22,400,000
Area E: Southwest Champaign				
Windsor Rd.	Duncan Rd.	Mattis Ave.	2.00	$5,700,000
Mattis Ave.	Windsor Rd.	Curtis Rd.	2.00	$4,000,000
Duncan Rd.	Curtis Rd.	Meadows West	0.97	$2,000,000
Duncan Rd.	Curtis Rd.	Savoy Limit	1.00	$2,000,000
Rising Rd.	Windsor Rd.	Curtis Rd.	2.00	$4,000,000
Rising Rd.	Curtis Rd.	Old Church Rd.	2.00	$4,000,000
Curtis Rd.	Staley Rd.	Rising Rd.	2.00	$4,000,000
Old Church Rd	I-57	Rising Rd.	2.79	$5,500,000
Staley Rd.	Curtis Rd.	Old Church Rd.	2.02	$2,520,000
TOTAL FOR AREA E			16.77	$33,720,000

Within the fiscal model, the timing of these projects is dependent on the completion of development within each area for both Scenarios One and Two. When development within each area reaches 25%, it is assumed that half of the roads projects are begun. When development within each area reaches 70%, it is assumed that the rest of the projects are undertaken. For each of these periods when the projects are initiated, the completion of the projects is spread over three years.

While the City could use a number of different options to finance roads including an increase in the motor fuel tax or another fee or tax, for the purposes of this study, it is assumed that all road projects will be financed with bonds.

C. Police

The City's Police operate out of a central police station with small police substations located within fire departments, which are used for police report writing when needed. Thus, Police facility space will increase with the addition of a new fire station under Scenario Two (Growth **Beyond** the Service Area). No other Police facility space expansion is anticipated at this time.

An increase in the number of patrol vehicles is anticipated with the increase in police patrol officers as described in the operating expenses section. The current level of service of two patrol vehicles to every one patrol officer is maintained by linking the Police capital portion of the fiscal model to the hiring. Thus, for every two new patrol officers, the need for one additional patrol vehicle is triggered in the model. The estimated cost of a patrol vehicle is $23,820 based on the City's inventory of current vehicles.

D. Fire

The Fire Department anticipates moving two of its current stations. Station #3 will be moved northeast near the intersection of Market Street and Interstate Road to serve development in this area; because this move is needed now, it is considered a move that is attributable to the needs of existing development. Thus, the cost of moving this station is not included in the fiscal analysis.

Station #4 will need to be moved west towards I-57 when the City annexes additional land in this area. Because moving this station is based on the needs of future development, the $3.6 million new station is included in the fiscal study in Scenario Two (Growth **Beyond** the Service Area). The timing of this move is estimated to by FY2017, as this is when 33% of the anticipated development in fiscal zones C: Bradley and Staley and D: Staley and Kirby will be achieved. The cost of moving this station is allocated between the two areas with 37% of the costs allocated to the Bradley and Staley area and 63% to the Staley and Kirby area based on the amount of development in these areas.

In addition to moving these two stations, the Fire Chief anticipates the need for an additional fire station when development occurs in areas B: Olympian Extended and C: Bradley and Staley under Scenario Two (Growth **Beyond** the Service Area). This new station would serve the northern part of the Bradley and Staley area not covered by stations #4 in its new location or

#5; it would also serve most of the Olympian Extended area. The cost of a new fire station is estimated to be $3.6 million plus the cost of a new engine for this station of $460,000. This new fire station would also need an engine; the cost is estimated to be $460,000. These costs are allocated 57% to Olympian Extended and 43% to Bradley and Staley based on the expected development in these areas. The timing of this new station and engine is estimated to be FY2018, as this is when 33% of the anticipated development in these fiscal zones will be achieved.

E. Library

The new main library has 122,600 square feet of space currently being utilized while the Douglas Branch Library has 6,000 square feet. Thus, the current level of service for library facilities is 1.71 square feet per person (128,600 square feet / 75,254 persons = 1.71 square feet per person). The main library currently has 40,000 square feet of space in the basement that is not being used; this facility space is enough to serve an additional 23,400 people based on the current level of service. Because neither scenario being considered in the fiscal study has population growth this large, it is not necessary to include a library facility capital expansion in the study.

The library system's current collection has 362,642 items with a total replication value of $7.9 million. This is a level of service of 4.82 units per person with a replication cost of $21.89 per item. The fiscal study maintains this level of service by increasing the number of items in the library collection with the increasing population. Figure A-53 below shows the increase in the number of units in the collection by fiscal analysis zone and scenario.

Figure A-53: Library Collections

Fiscal Area Zone	Scenarios			
	Scenario One: Development **Within** the Service Area		Scenario Two: Development **Beyond** the Service Area	
	Library Collection & Cost			
Area A: Olympian Drive & Prospect Avenue	29,591	$647,747	19,818	$433,816
Area B: Olympian Extended/Clearview	3,704	$81,081	16,658	$364,644
Area C: Bradley Ave. & Staley Rd.	8,770	$191,975	11,358	$248,627
Area D: Staley Rd. & Kirby Ave.	19,197	$420,222	19,159	$419,391
Area E: Southwest Champaign	21,730	$475,670	15,096	$330,451
Area F: Curtis Rd. Interchange	3,748	$82,044	8,220	$179,936
Area G: Infill development	3,367	$73,704	3,367	$73,704
TOTAL VEHICLES	**90,107**	**$1,972,442**	**93,676**	**$2,050,568**

TischlerBise
Fiscal, Economic & Planning Consultants

APPENDIX B: DEMOGRAPHIC FORECASTS AND SCENARIOS

I.   DEMOGRAPHIC FORECASTS AND SCENARIOS

The fiscal impact analysis study for the City of Champaign, Illinois, examines the fiscal impact of two growth alternatives in seven areas of the City. The fiscal impact analysis study will compare the net fiscal impact in seven areas of the City with two growth alternative scenarios. Revenues, operating costs, and capital costs associated with each growth area and scenario are captured and summed to determine the fiscal impact of growth on the City. In the study, Scenario One assumes growth **within** existing service areas while Scenario Two assumes growth **beyond** the existing service areas.

The seven areas of the City examined in the study are defined by central transportation nodes:

- Area A: Olympian Drive at Prospect Avenue;
- Area B: Olympian Drive Extended (future interchange with I-74);
- Area C: Bradley Avenue at Staley Road;
- Area D: Staley Road at Kirby Avenue;
- Area E: Southwest Champaign (area surrounding the I-57 and Curtis Road interchange);
- Area F: Curtis Road Interchange with I-57; and
- Area G: Infill development in the Campustown area.
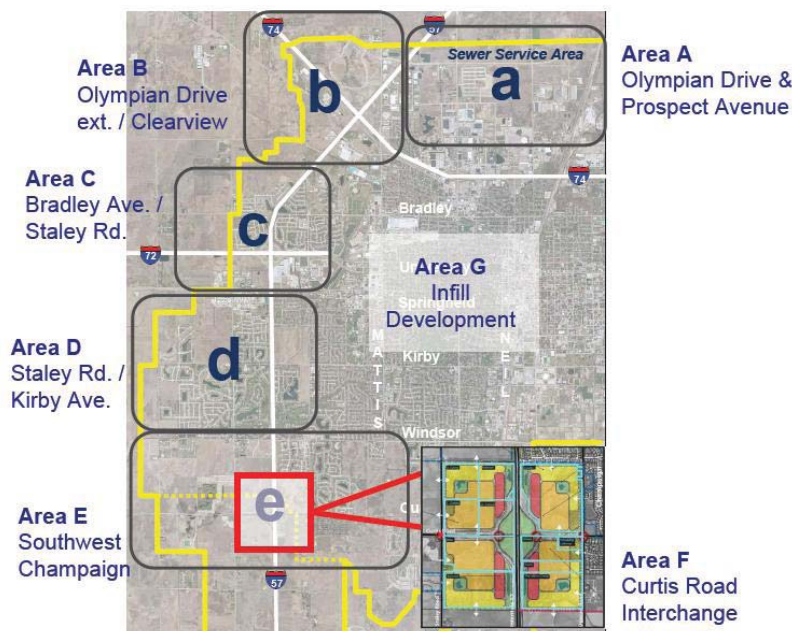
Area A: Olympian and Prospect Avenue

A detailed map of Area A is shown in below. In Area A, the land to the south of the yellow line (the direction the arrows are pointing) is within the existing sanitary sewer service area (Scenario One). The black dotted line marks the border of Area A.

Area B: Olympian Drive Extended

A detailed map of Area B is shown below. In Area B, the land to the south of the yellow line is within the existing sanitary sewer service area. The border of Area B extends west of the black dotted line.
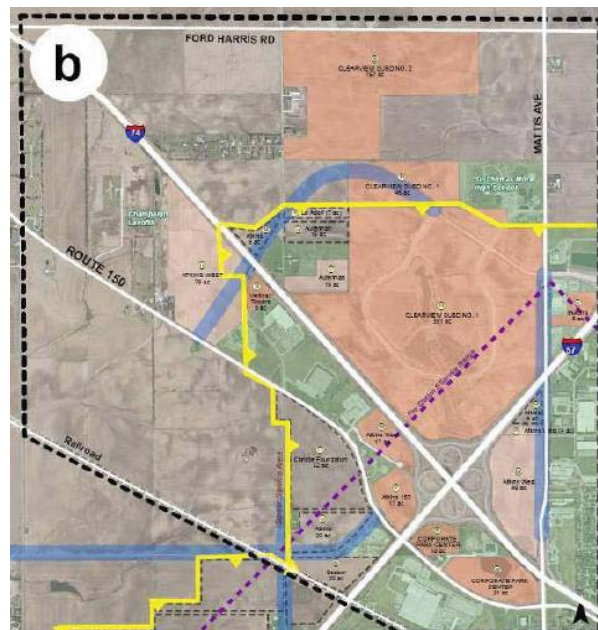
Area C: Bradley Avenue and Staley Road

A detailed map of Area C is shown below. In Area C, the land to the east of the yellow line is within the existing sanitary sewer service area. The border of Area C is shown by the black dotted line.

Area D: Staley Road and Kirby Avenue

A detailed map of Area D is shown below. In Area D, the land to the south of the yellow line is within the existing sanitary sewer service area. The border of Area D extends to the west and northwest of the black dotted line incorporating approximately one thousand acres that are not shown on the map below.

Area E: Southwest Champaign

A detailed map of Area E is shown below. Note that Area F is located within Area E as marked. In Area E, the land to the north of the yellow dotted line is within the existing sanitary sewer service area. The black dotted lines mark the borders of Area E and Area F.

TischlerBise
Fiscal, Economic & Planning Consultants
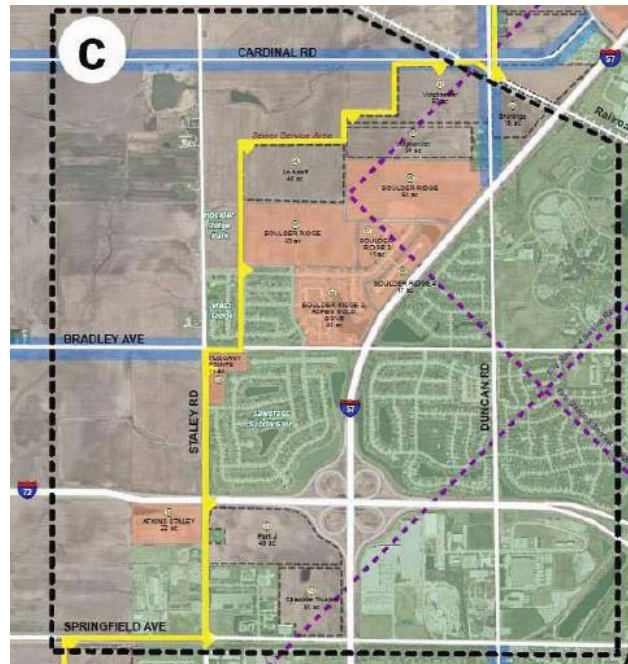
Area F: Curtis Road Interchange

A more detailed map of Area F is shown below. In Area F, the land to the north and east of the dotted yellow line is within the existing sanitary sewer service area. The border of Area F is shown with the black dotted line.
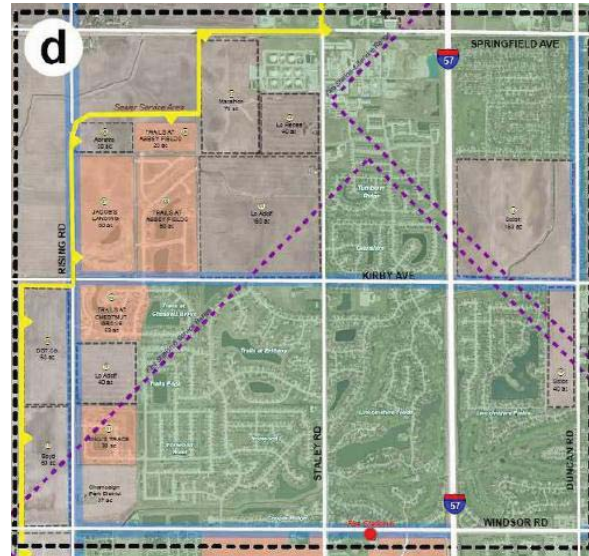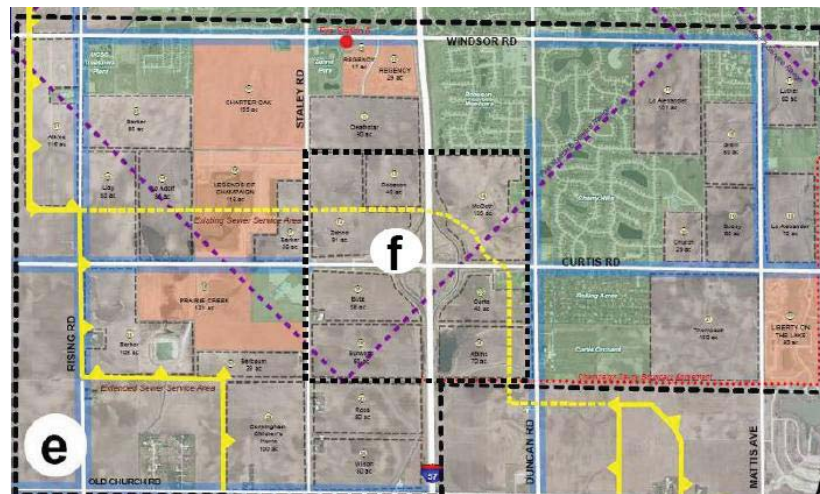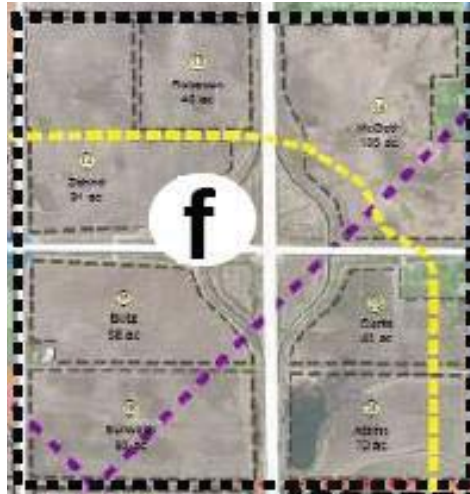

Area G: Infill Development

Area G consists of approximately seven mixed use infill development projects with neighborhood retail and rental apartments. It is expected that these developments will be similar to and located near other mixed use buildings in the Campus Town area.

II.   CAPACITY OF FISCAL ANALYSIS ZONES

Given the approved development plans and assumptions made about uncommitted land, the build-out potential of the FAZs within the existing sanitary sewer service area (Scenario One) and the build-out potential of the FAZs within the existing sanitary sewer service area and beyond it (Scenario Two) have been calculated and are shown in the figure below. Build-out potential is defined as having 100% of all approved developments built and 70% of uncommitted land developed. Uncommitted land includes all parcels upon which there has been no building to date.

The build-out figures shown include all the development that could be built within the area of this FAZ; this level of development will not be achieved during the twenty-year period being considered in the fiscal study. In fact, given the level of growth seen in the past several years in Champaign, the residential build-out of Scenario One (Growth **Within** the Service Area) will likely take more than twenty-five years while Scenario Two (Growth **Beyond** the Service Area) will take fifty years or more. Nonresidential build-out will take significantly more time.

Land Use Type	Scenario 1: Within existing service area					Scenario 2: Within & outside existing service area				
	Acres	Units/SF	Percent	Pop. /Jobs	Percent	Acres	Units/SF	Percent	Pop. /Jobs	Percent
RESIDENTIAL										
Single Family Detached High Price Point	322	506	5%	1,433	7%	1,203	1,849	7%	5,233	9%
Single Family Detached Medium Price Point	1,108	2,258	23%	7,563	35%	3,051	7,038	28%	23,577	40%
Single Family Detached Low Price Point	333	1,377	14%	3,099	14%	1,214	4,902	19%	11,029	19%
Attached Housing	312	1,300	13%	2,317	11%	805	4,208	17%	7,502	13%
Multi-family Units	414	4,264	44%	7,113	33%	722	7,240	29%	12,076	20%
TOTAL	2,489	9,705	100%	21,525	100%	6,994	25,237	100%	59,417	100%
NONRESIDENTIAL										
Industrial	562	4,895,027	35%	6,241	15%	635	5,246,033	27%	6,689	11%
Office	565	6,147,509	44%	25,464	63%	749	8,152,871	42%	33,771	57%
Neighborhood Commercial	219	2,413,263	17%	6,895	17%	446	4,879,456	25%	13,941	24%
Big Box Commercial	34	441,189	3%	1,961	5%	78	1,021,384	5%	4,539	8%
TOTAL	1,379	13,896,986	100%	40,562	100%	1,907	19,299,744	100%	58,941	100%

III. SCENARIO ONE: DEVELOPMENT WITHIN THE EXISTING SERVICE AREA

In Scenario One, all growth occurs within the boundary of the current sanitary sewer service area. Because the pace of total growth in Scenarios One and Two is the same, development in Scenario One is denser than in Scenario Two (Growth **Beyond** the Service Area).

The growth rate assumed in this study reflects the recent trends in building permits issued for residential units in the City. The average number of building permits over the past ten years is 543 although permits in 2008 and to date in 2009 have been lower than that. It is expected that the total building permits issued in 2009 will be approximately 160; thus, growth projections for this study begin at that level with an increasing number of permits each year after that.

Over the twenty-year projection period, there are a total of 8,453 new housing units. Growth averages 423 new housing units per year beginning with a slower growth rate of 162 new units in FY2010. The growth rate increases each year to a high of 531 new units in FY2029. In keeping with the housing unit growth, population growth intensifies over time. Total population growth in Scenario One is 18,700 new residents by the end of FY2029.

Growth occurs in each Fiscal Analysis Zone based on the amount of land the zone has available for development. The only exceptions to this are that infill development (Area G) is expected to build-out and that growth is expected to be more intense at the Curtis Road Interchange (Area F). Population growth is actually lowest in these two zones though due to their smaller land area.

Population and Economy. Population growth is greatest in Areas A and E with 6,141 new residents in Area A and 4,509 new residents in Area E. Area D also has significant growth with 3,984 additional persons. Growth is slower in Area B (769) and Area C (1,820). As mentioned previously, Areas F and G also see less population growth with only 778 and 699 new persons.

	Fiscal Analysis Zone (FAZ)							
	A: Olympian & Prospect	B: Olympian ext./ Clearview	C: Bradley & Staley	D: Staley & Kirby	E: Southwest Champaign	F: Curtis Interchange	G: Infill	TOTAL
Population	6,141	769	1,820	3,984	4,509	778	699	**18,700**
Housing Units								
Single Family Detached High PP	41	25	26	174	170	0	0	**435**
Single Family Detached Medium PP	356	116	210	646	565	55	0	**1,948**
Single Family Detached Low PP	329	66	68	269	452	0	0	**1,183**
Attached Housing	86	51	272	243	352	130	0	**1,134**
Multi-family Units	2,361	43	244	174	294	217	419	**3,752**
Total Housing Units	**3,173**	**300**	**819**	**1,506**	**1,833**	**402**	**419**	**8,453**
Nonresidential Building Area	1,476,958	109,855	605,853	970,993	722,696	94,770	129,718	**4,110,843**
Employment								
Industrial	1,138	14	652	690	0	0	0	**2,494**
Office	1,438	357	137	624	1,048	122	0	**3,725**
Neighborhood Retail	680	37	176	799	1,343	187	371	**3,593**
Big Box Commercial	0	0	0	0	0	0	0	**0**
Total Employment	**3,256**	**408**	**965**	**2,113**	**2,391**	**309**	**371**	**9,812**

The employment projection assumes that the current population to jobs ratio of 1.89 will remain constant. Thus, those areas with the greatest population growth also have the greatest job growth.

Residential Land Uses.   The mix of land uses within each area is based on both approved developments and expected land use of uncommitted land.

For example, in Area A, the City has approved several large multi-family developments; thus, this area has much greater growth of multi-family units than the other areas. In contrast, Area B has relatively few multifamily units with only 14% of new development being multi-family.

Area C has a more balanced mix of housing units while Area D has a significant number of approved Single Family Detached Medium Price Point units, which affects the distribution of housing units by type in this area.

Area E has many approved developments, which are a mix of all types of housing units. Area F is expected to develop with Single Family Detached Medium Price Point, Attached, and Multi-family units due to the greater density in this area while Area G will be the most intense land use with only multi-family units.

Nonresidential Land Uses.   Like residential land uses, the division of land use by type of nonresidential development is based on both approved developments and expected land use of uncommitted land.

Area A has existing industrial development, and the City has approved additional industrial land use. Thus, just under 50% of the industrial development in this scenario is expected in Area A. Area A also has a significant amount of office development, which creates more office jobs than industrial in this area.

On the other hand, Area B's approved developments consist primarily of office and neighborhood commercial space. A majority of new jobs in this area are office.

Both Area C and Area D are expected to have significant industrial development of more than 600 jobs created. Some office and neighborhood commercial development is expected in Area C although it is anticipated that there will be significantly more of this type of development in Area D.

Nonresidential development in Area E is projected to be only office and neighborhood commercial. Because Area F is defined by the interstate interchange, nonresidential development in this area is expected to consist of both office and big box commercial. The infill development of Area G will likely be mixed use apartment and neighborhood commercial buildings similar to those that have recently been built in the Campus Town area; thus, neighborhood commercial is the only type of nonresidential development seen in this area.

Transportation. Growth in Areas A, B, C, D, and E will require upgrading existing roadways in each area and new road construction in Areas A and B. These road project costs are captured in the capital expenses section of the fiscal analysis.

Sanitary Sewer Service. Scenario One assumes no expansion of the sanitary sewer service area.

IV. SCENARIO TWO: DEVELOPMENT BEYOND THE EXISTING SERVICE AREA

Although the pace of total growth in Scenario Two is the same as Scenario One, new developments are more scattered throughout each FAZ. This is due to the fact that each FAZ (except Area G, which is infill development) is larger in area as a result of the assumed expansion of the sanitary sewer service area.

As in Scenario One, growth averages 423 new housing units per year beginning with a slower growth rate of 162 new units in FY2010. The growth rate increases each year to a high of 531 new units in FY2029. Over the twenty-year projection period, 8,453 housing units are added; the population increases by 19,440. In keeping with the housing unit growth, population growth intensifies over time. The population growth is higher than in Scenario Two due to the different mix of housing units.

Growth occurs in each Fiscal Analysis Zone based on the amount of land the zone has available. More development occurs in those areas where the land area increases the most from Scenario One to Scenario Two. For example, the acreage of Area B in Scenario Two is 3.4 times the area of Area B in Scenario One while the acreage of Scenario A in Scenario Two is only 1.7 times larger than in Scenario One. Thus, development shifts from Area A to other areas because there is relatively less land available while Area B attracts more development because more land is available.

As in Scenario One, the infill development in Area G is expected to build-out and that growth is expected to be more intense at the Curtis Road Interchange (Area F). Population growth is actually lowest in these two zones though due to their smaller land area.

Population and Economy. Population growth is greatest in Areas A and D with 4,113 new residents in Area A and 3,976 new residents in Area D. Areas B and E also have significant

TischlerBise
Fiscal, Economic & Planning Consultants

growth with 3,457 and 3,133 additional persons respectively. Growth is slightly slower in Area C (2,357). As mentioned previously, Areas F and G see less population growth with only 1,706 and 699 new persons.

	Fiscal Analysis Zone (FAZ)							
	A: Olympian & Prospect	B: Olympian ext./ Clearview	C: Bradley & Staley	D: Staley & Kirby	E: Southwest Champaign	F: Curtis Interchange	G: Infill	TOTAL
Population	4,113	3,457	2,357	3,976	3,133	1,706	699	**19,440**
Housing Units								
Single Family Detached High PP	89	109	74	158	123	0	0	**553**
Single Family Detached Medium PP	372	467	289	549	390	119	0	**2,187**
Single Family Detached Low PP	312	291	197	353	312	0	0	**1,466**
Attached Housing	184	227	229	287	243	286	0	**1,457**
Multi-family Units	950	314	197	229	203	478	419	**2,790**
Total Housing Units	**1,907**	**1,408**	**986**	**1,577**	**1,273**	**883**	**419**	**8,453**
Nonresidential Building Area	1,004,037	517,252	434,806	752,812	502,060	208,338	129,718	**3,549,023**
Employment								
Industrial	790	79	118	240	0	0	0	**1,227**
Office	936	1,455	496	819	728	300	0	**4,735**
Neighborhood Retail	456	299	635	1,049	933	0	371	**3,743**
Big Box Commercial	0	0	0	0	0	604	0	**604**
Total Employment	**2,181**	**1,833**	**1,250**	**2,108**	**1,661**	**905**	**371**	**10,309**

The employment projection assumes that the current population to jobs ratio of 1.89 will remain constant. Thus, those areas with the greatest population growth also have the greatest job growth.

Residential Land Uses. As in Scenario One, the mix of land uses within each area is based on both approved developments and expected land use of uncommitted land. Land use in each area differs from Scenario One due to the greater amount of acreage available for development.

In Area A, multi-family units still make up a majority of the units developed but the amount has decreased from 74% of total units in the area to 50% of total units in the area. There are more single family detached units of all price points in Scenario Two. Area B also has a mix of units when compared to Scenario One; it also has a much greater amount of development in Scenario Two—more than 4.5 times the number of units than are developed in Scenario One.

Areas C and D have slightly more development in Scenario Two while Area D has slightly less; all maintain a mix of land uses. Development of Area F in Scenario Two is more than double what it is in Scenario One with population growth of 1,706. Area G is the same in Scenario One and Scenario Two as all infill development occurs within the current sanitary sewer service area.

Nonresidential Land Uses. The division of land use by type of nonresidential development is based on both approved developments and expected land use of uncommitted land.

Area A still has more industrial and office development than neighborhood retail; in Scenario Two, 64% of industrial development is in Area A. In Scenario Two, Area B has significantly more nonresidential development; job creation is more than quadrupled. Land use is still primarily office development.

In Area C, total land use decreases only slightly; however, the mix of land uses within the area is significantly different from Scenario One where most development was industrial. In Scenario Two, approximately half of the jobs created are neighborhood retail jobs. This shift occurs because in Scenario One Area C the only approved nonresidential land use is industrial, and 74% of the uncommitted land is expected to develop as industrial. In Scenario Two, there is three times as much uncommitted land available for nonresidential development, and two-thirds of it is expected to develop with a mix of office and neighborhood retail.

Area D sees a similar shift of development from industrial to neighborhood retail development also due to the availability of more land for this type of development.

Areas E, F, and G maintain approximately the same division of land use by type. Areas E and G also have the same amount of development while Area E has more than twice as much development in Scenario Two.

Transportation. Because development in Scenario Two is built over a larger area than development in Scenario One, more road construction and reconstruction are required to serve the same total amount of development. The length of roads requiring improvement or new construction is 92% higher in Scenario Two. These costs are reflected in the capital portion of the fiscal analysis.

Sanitary Sewer Service. Scenario Two requires the expansion of the sanitary sewer service area in all FAZs except Area G (infill development). The cost of the expansion of sanitary sewer service in these areas is not included in the fiscal analysis because the expansion would be funded through the Sewer Fund, which is not a tax-supported fund. However, the ease of development in each area is impacted by the degree of difficulty and cost of expanding sanitary sewer service in that FAZ.

The expansion of sanitary sewer service could be achieved with four separate projects:

1. Expansion from the current boundary north to Ford Harris Road, west to approximately Duncan Road, and east to the City boundary with Urbana. This project would expand sanitary sewer service for Area A and the northeast part of Area B. The project should be relatively easy with the extension of interceptor sewers, which is a cost typically covered by developers.

2. Expansion of service in the area bound by Ford Harris Road, slightly west of Duncan Road (to meet the area covered by project one), I-72, Lindsey Road, and the current service area. This project would expand sanitary sewer service both north and west of Area B as well as west of Area C. It is the only project needed to extend the service area for Area C. This project would be very difficult and costly due to the topography and distance from treatment plants.

3. Expansion of service south of I-72 to Curtis Road and west of the current service area boundary to Barker Road. This expansion would provide additional land for development in Area D as well as a small amount of additional land for Area E. Because

this project will require both more interceptors and lift stations to connect into the current system, it would be difficult.

4. Expansion of service south of the current service area to approximately Old Church Road between Rising Road and I-57. This project would expand sanitary sewer service for both Areas E and F. This would be a relatively easy project with upfront costs.

APPENDIX C: SCENARIO METHODOLOGY

I.   METHODOLOGY AND ASSUMPTIONS

The fiscal impact analysis study will compare the net fiscal impact in seven areas of the City with two growth alternative scenarios. Revenues, operating costs, and capital costs associated with each growth area and scenario are captured and summed to determine the fiscal impact of growth on the City.

In the study, Scenario One assumes growth within existing service areas while Scenario Two assumes growth both within and beyond the existing service areas.

The seven areas of the City examined in the study are defined by central transportation nodes:

- Area A: Olympian Drive & Prospect Avenue;
- Area B: Future Olympian Drive & I-74 interchange;
- Area C: Bradley Avenue & Staley Road;
- Area D: Staley Road & Kirby Avenue;
- Area E: Area surrounding I-57 & Curtis Road Interchange;
- Area F: Immediate area around I-57 & Curtis Road Interchange; and
- Area G: Infill development within the area of existing Development.

In each of these areas, the amount and type of development projected is based on approved developments and projected land use. An assumption has been made that 100% of approved developments are completed consistent with the approved plan; all approved single family detached units are assumed to be medium price point single family detached units. It is also assumed that 70% of uncommitted land in each area is developed in the following way:

- 19.25% single family detached high price point;
- 38.5% single family detached medium price point;
- 19.25% single family detached low price point;
- 10% attached units;
- 5% multifamily units;
- 5.2% commercial/retail; and
- 2.8% office.

Land use assumptions including persons per household, employment density, and assessed values are consistent with the recently completed cost of land uses study. Residential density and nonresidential floor to area ratios (in Figure C-1) are consistent with recent developments in the City.

TischlerBise
Fiscal, Economic & Planning Consultants

Figure C-1: Density Factors

Residential		Nonresidential	
Land Use Type	Density (DU/acre)	Land Use Type	Floor to Area Ratio
SFD High PP	1.5	Industrial	0.2
SFD Medium PP	2.5	Neighborhood Commercial	0.4
SFD Low PP	4.0	Regional Commercial	0.3
Attached Units	6.0	Office	1.5
Multifamily	10.0		

These factors have been used to convert the acres of uncommitted land to residential units and nonresidential square footage, which are shown in the following sections.

II.   BUILD-OUT POTENTIAL IN DEVELOPMENT ZONES

As mentioned previously, most of the seven areas of the City examined in the study are defined by central transportation nodes around the edge of the existing City—the exception being infill development, which is expected to occur in the Campus Town area.

Area A: Olympian and Prospect Avenue

Given the approved development plans and assumptions made about uncommitted land, the build-out potential of area A within the existing sanitary sewer service area (Scenario One) and the build-out potential of area A within the existing sanitary sewer service area and beyond it (Scenario Two) have been calculated and are shown in Figure C-2. Build-out potential is defined as having 100% of all approved developments built and 70% of uncommitted land developed. Uncommitted land includes all parcels upon which there has been no building to date.

The build-out figures shown in Figure C-2 show the development that could be built within the area of this FAZ; this level of development will not be achieved during the twenty year period being considered in the fiscal study.

TischlerBise
Fiscal, Economic & Planning Consultants

Figure C-2: Build-out Potential of Area A

Land Use Type	Scenario 1: Within existing service area					Scenario 2: Within & outside existing service area				
	Acres	Units/SF	Percent	Pop./Jobs	Percent	Acres	Units/SF	Percent	Pop./Jobs	Percent
RESIDENTIAL										
Single Family Detached High Price Point	32	48	1%	136	2%	198	297	5%	839	6%
Single Family Detached Medium Price Point	137	415	11%	1,389	19%	468	1,243	19%	4,163	30%
Single Family Detached Low Price Point	96	382	10%	861	12%	261	1,045	16%	2,351	17%
Attached Housing	17	100	3%	178	2%	103	616	10%	1,099	8%
Multi-family Units	255	2,748	74%	4,584	64%	298	3,178	50%	5,302	39%
TOTAL	536	3,693	100%	7,148	100%	1327	6,379	100%	13,754	100%
NONRESIDENTIAL										
Industrial	395	3,437,509	60%	4,383	35%	428	3,727,183	62%	4,752	36%
Office	123	1,336,654	23%	5,537	44%	125	1,359,469	22%	5,631	43%
Neighborhood Commercial	84	917,200	16%	2,621	21%	88	959,570	16%	2,742	21%
TOTAL	602	5,691,363	100%	12,540	100%	641	6,046,222	100%	13,125	100%

Area B: Olympian Drive Extended

Given the approved development plans and assumptions made about uncommitted land, the build-out potential of Area B within the existing sanitary sewer service area (Scenario One) and the build-out potential of Area B within the existing sanitary sewer service area and beyond it (Scenario Two) have been calculated and are shown in Figure C-3.

The build-out figures shown in Figure C-3 show the development that could be built within the area of this FAZ; this level of development will not be achieved during the twenty year period being considered in the fiscal study.

TischlerBise
Fiscal, Economic & Planning Consultants

Figure C-3: Build-out Potential of Area B

Land Use Type	Scenario 1: Within existing service area					Scenario 2: Within & outside existing service area				
	Acres	Units/SF	Percent	Pop./Jobs	Percent	Acres	Units/SF	Percent	Pop./Jobs	Percent
RESIDENTIAL										
Single Family Detached High Price Point	19	29	8%	81	9%	243	365	8%	1,033	9%
Single Family Detached Medium Price Point	58	135	39%	452	50%	660	1,563	33%	5,237	45%
Single Family Detached Low Price Point	19	77	22%	172	19%	243	974	21%	2,190	19%
Attached Housing	10	60	17%	106	12%	126	759	16%	1,352	12%
Multi-family Units	5	50	14%	83	9%	105	1,049	22%	1,749	15%
TOTAL	111	350	100%	895	100%	1378	4,709	100%	11,561	100%
NONRESIDENTIAL										
Industrial	61	527,686	10%	673	3%	100	871,810	12%	1,112	4%
Office	382	4,160,250	78%	17,233	87%	454	4,945,561	68%	20,486	79%
Neighborhood Commercial	58	627,454	12%	1,793	9%	135	1,471,950	20%	4,206	16%
TOTAL	500	5,315,389	100%	19,698	100%	689	7,289,320	100%	25,803	100%

Area C: Bradley Avenue and Staley Road

Given the approved development plans and assumptions made about uncommitted land, the build-out potential of Area C within the existing sanitary sewer service area (Scenario One) and the build-out potential of Area C within the existing sanitary sewer service area and beyond it (Scenario Two) have been calculated and are shown in Figure C-4.

The build-out figures shown in Figure C-4 show the development that could be built within the area of this FAZ; this level of development will not be achieved during the twenty year period being considered in the fiscal study.

TischlerBise
Fiscal, Economic & Planning Consultants

Figure C-4: Build-out Potential of Area C

Land Use Type	Scenario 1: Within existing service area					Scenario 2: Within & outside existing service area				
	Acres	Units/SF	Percent	Pop./Jobs	Percent	Acres	Units/SF	Percent	Pop./Jobs	Percent
RESIDENTIAL										
Single Family Detached High Price Point	20	30	3%	84	4%	164	247	7%	698	9%
Single Family Detached Medium Price Point	112	244	26%	818	39%	401	967	29%	3,239	41%
Single Family Detached Low Price Point	20	79	8%	178	8%	164	657	20%	1,479	19%
Attached Housing	74	316	33%	564	27%	149	767	23%	1,367	17%
Multi-family Units	23	284	30%	475	22%	60	660	20%	1,101	14%
TOTAL	248	954	100%	2,119	100%	939	3297	100%	7,883	100%
NONRESIDENTIAL										
Industrial	56	484,649	84%	618	68%	56	201,857	21%	257	9%
Office	3	31,404	5%	130	14%	24	260,346	28%	1,078	40%
Neighborhood Commercial	5	58,322	10%	167	18%	44	483,500	51%	1,381	51%
TOTAL	64	574,374	100%	915	100%	124	945,703	100%	2,717	100%

Area D: Staley Road and Kirby Avenue

Given the approved development plans and assumptions made about uncommitted land, the build-out potential of Area D within the existing sanitary sewer service area (Scenario One) and the build-out potential of Area D within the existing sanitary sewer service area and beyond it (Scenario Two) have been calculated and are shown in Figure C-5.

The build-out figures shown in Figure C-5 show the development that could be built within the area of this FAZ; this level of development will not be achieved during the twenty year period being considered in the fiscal study.

TischlerBise
Fiscal, Economic & Planning Consultants

Figure C-5: Build-out Potential of Area D

Land Use Type	Scenario 1: Within existing service area					Scenario 2: Within & outside existing service area				
	Acres	Units/SF	Percent	Pop./Jobs	Percent	Acres	Units/SF	Percent	Pop./Jobs	Percent
RESIDENTIAL										
Single Family Detached High Price Point	131	202	12%	572	12%	348	528	10%	1,494	11%
Single Family Detached Medium Price Point	341	752	43%	2,518	54%	776	1,837	35%	6,155	46%
Single Family Detached Low Price Point	78	313	18%	703	15%	295	1,181	22%	2,658	20%
Attached Housing	61	283	16%	505	11%	173	960	18%	1,711	13%
Multi-family Units	20	203	12%	339	7%	77	767	15%	1,279	10%
TOTAL	632	1753	100%	4,637	100%	1669	5273	100%	13,297	100%
NONRESIDENTIAL										
Industrial	51	445,183	56%	568	33%	51	445,183	25%	568	11%
Office	11	123,798	15%	513	30%	43	467,721	26%	1,937	39%
Neighborhood Commercial	21	229,910	29%	657	38%	80	868,624	49%	2,482	50%
TOTAL	84	798,890	100%	1,737	100%	174	1,781,528	100%	4,987	100%

Area E: Southwest Champaign

Given the approved development plans and assumptions made about uncommitted land, the build-out potential of Area E within the existing sanitary sewer service area (Scenario One) and the build-out potential of Area E within the existing sanitary sewer service area and beyond it (Scenario Two) have been calculated and are shown in Figure C-6.

The build-out figures shown in Figure C-6 show the development that could be built within the area of this FAZ; this level of development will not be achieved during the twenty year period being considered in the fiscal study.

Figure C-6: Build-out Potential of Area E

Land Use Type	Scenario 1: Within existing service area					Scenario 2: Within & outside existing service area				
	Acres	Units/SF	Percent	Pop./ Jobs	Percent	Acres	Units/SF	Percent	Pop./ Jobs	Percent
RESIDENTIAL										
Single Family Detached High Price Point	120	197	9%	559	11%	250	413	10%	1,169	11%
Single Family Detached Medium Price Point	438	658	31%	2,205	42%	697	1,306	31%	4,375	42%
Single Family Detached Low Price Point	120	526	25%	1,185	23%	250	1,045	25%	2,351	22%
Attached Housing	129	410	19%	731	14%	205	814	19%	1,451	14%
Multi-family Units	87	342	16%	570	11%	131	678	16%	1,132	11%
TOTAL	894	2,134	100%	5,249	100%	1,531	4,256	100%	10,477	100%
NONRESIDENTIAL										
Office	27	297,434	35%	1,232	44%	53	574,975	35%	2,382	44%
Neighborhood Commercial	51	552,378	65%	1,578	56%	98	1,067,812	65%	3,051	56%
TOTAL	78	849,812	100%	2,810	100%	151	1,642,787	100%	5,433	100%

Area F: Curtis Road Interchange

Given the approved development plans and assumptions made about uncommitted land for Area F, the build-out potential within the existing sanitary sewer service area (Scenario One) and the build-out potential within the existing sanitary sewer service area and beyond it (Scenario Two) has been calculated and is shown in Figure C-7.

The build-out figures shown in Figure C-7 show the development that could be built within the area of this FAZ; this level of development will not be achieved during the twenty year period being considered in the fiscal study.

Figure C-7: Build-out Potential of Area F

Land Use Type	Scenario 1: Within existing service area					Scenario 2: Within & outside existing service area				
	Acres	Units/SF	Percent	Pop./Jobs	Percent	Acres	Units/SF	Percent	Pop./Jobs	Percent
RESIDENTIAL										
Single Family Detached Medium Price Point	22	54	14%	182	23%	49	122	14%	408	23%
Attached Housing	22	130	32%	232	30%	49	293	32%	522	30%
Multi-family Units	22	217	54%	362	47%	49	488	54%	813	47%
TOTAL	65	402	100%	777	100%	146	902	100%	1,743	100%
NONRESIDENTIAL										
Office	18	197,969	31%	820	29%	50	544,799	35%	2,257	33%
Big Box Commercial	34	441,189	69%	1,961	71%	78	1,021,384	65%	4,539	67%
TOTAL	52	639,158	100%	2,781	100%	128	1,566,184	100%	6,796	100%

Area G: Infill Development

Area G consists of approximately seven mixed use infill development projects with neighborhood retail and rental apartments. It is expected that these developments will be similar to and located near other mixed use buildings in the Campus Town area. The build-out potential of this area is summarized in Figure C-8.

The build-out figures shown in Figure C-8 show the development that could be built within the area of this FAZ; this level of development will not be achieved during the twenty year period being considered in the fiscal study.

Figure C-8: Build-out Potential of Area G

Land Use Type	Scenario 1: Within existing service area					Scenario 2: Within & outside existing service area				
	Acres	Units/SF	Percent	Pop./Jobs	Percent	Acres	Units/SF	Percent	Pop./Jobs	Percent
RESIDENTIAL										
Multi-family Units	2.9	420	100%	701	100%	2.9	420	100%	701	100%
TOTAL	2.9	420	100%	701	100%	2.9	420	100%	701	100%
NONRESIDENTIAL										
Neighborhood Commercial	0.2	28,000	100%	80	100%	0.2	28,000	100%	80	100%
TOTAL	0.2	28,000	100%	80	100%	0.2	28,000	100%	80	100%

Total Build-out Potential

The total development expected in the seven development areas is shown in Figure C-9 below. This total growth will not occur within the twenty-year timeframe of the fiscal analysis study.

Figure C-9: Total Build-out Potential

Land Use Type	Scenario 1: Within existing service area					Scenario 2: Within & outside existing service area				
	Acres	Units/SF	Percent	Pop. /Jobs	Percent	Acres	Units/SF	Percent	Pop. /Jobs	Percent
RESIDENTIAL										
Single Family Detached High Price Point	322	506	5%	1,433	7%	1,203	1,849	7%	5,233	9%
Single Family Detached Medium Price Point	1,108	2,258	23%	7,563	35%	3,051	7,038	28%	23,577	40%
Single Family Detached Low Price Point	333	1,377	14%	3,099	14%	1,214	4,902	19%	11,029	19%
Attached Housing	312	1,300	13%	2,317	11%	805	4,208	17%	7,502	13%
Multi-family Units	414	4,264	44%	7,113	33%	722	7,240	29%	12,076	20%
TOTAL	2,489	9,705	100%	21,525	100%	6,994	25,237	100%	59,417	100%
NONRESIDENTIAL										
Industrial	562	4,895,027	35%	6,241	15%	635	5,246,033	27%	6,689	11%
Office	565	6,147,509	44%	25,464	63%	749	8,152,871	42%	33,771	57%
Neighborhood Commercial	219	2,413,263	17%	6,895	17%	446	4,879,456	25%	13,941	24%
Big Box Commercial	34	441,189	3%	1,961	5%	78	1,021,384	5%	4,539	8%
TOTAL	1,379	13,896,986	100%	40,562	100%	1,907	19,299,744	100%	58,941	100%

III.   ABSORPTION OF DEVELOPMENT

Pace of Growth

The pace of residential and nonresidential development is the same in both scenarios. This allows for a comparison of the fiscal impact of developing the same total number of residential units and nonresidential square footage per year in each scenario. With this approach, the focus remains on the fiscal impact of development within the current service area versus the fiscal impact of development that occurs within and beyond of the current service area.

A twenty-year timeframe is being used in the study to be consistent with the City's master plan timeframe.

Average residential growth is kept consistent with past growth in Champaign as well as the current slowdown in residential permits. It is anticipated that the City will issue approximately 156 permits in calendar year 2010; the average number of permits annually since 1996 is 473. Given the current economic climate, total residential units are projected logarithmically beginning with approximately 160 units per year, quickly ramping up to about 350 units per year in year 5 (FY2014), 475 in year 10 (FY2019), and reaching 500 units annually by year 16 (FY2027). Figure C-10 below shows the logarithmic curve of residential growth (log curve has an R-square of 0.98).

TischlerBise
Fiscal, Economic & Planning Consultants

Figure C-10: Logarithmic Growth of Residential Development

Residential Growth

$y = 123.3\ln(x) + 161.57$
$R^2 = 0.9821$
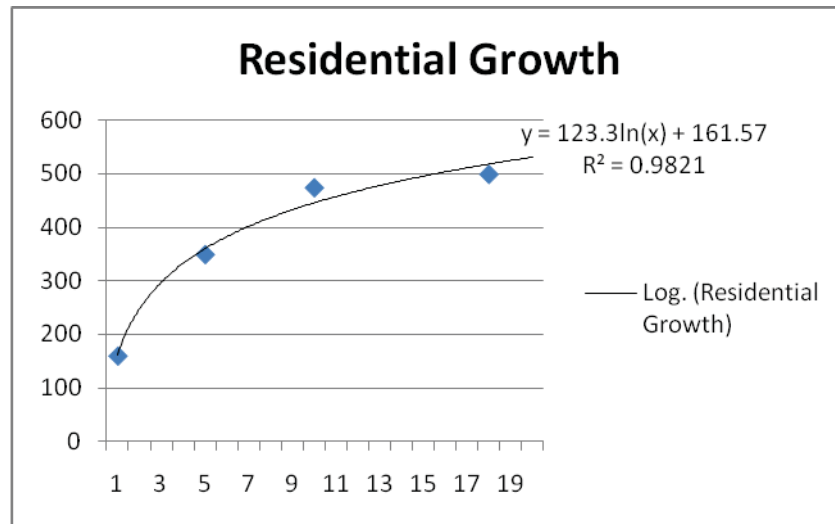
In both scenarios, the total annual residential growth in Areas A, B, C, D, and E is derived from this logarithmic projection while areas F and G are projected logarithmically so that both are built out within the twenty-year timeframe. The total units projected annually in areas F and G are subtracted from the total number of units per year to determine annual growth in Areas A, B, C, D, and E. The total growth in these five areas is then allocated to each area based on the percentage of total units in each area. The result is that build-out occurs in Scenario One in FY2020 (year 11) in Area F and in FY2029 (year 20) in Area G; it is not reached for areas A-E. Build-out for residential development in Scenario Two only occurs in area G.

The nonresidential growth is determined by maintaining the City's current population to jobs ratio of 1.89; this is used to convert the population growth to jobs in each scenario. The total jobs are allocated by type by using the percentage of total jobs in that area. For example, in Area A at build-out of Scenario One, the distribution of jobs is 60% industrial, 23% office, and 16% neighborhood retail. These percentages are multiplied by the total jobs added each year in Scenario One. These jobs numbers are then converted to square footage using job density factors taken from the Institute of Transportation Engineers' Trip Generation Manual as shown below in Figure C-11.

Figure C-11: Employment Density Factors

Land Use	Wkdy Trip Ends Per 1,000 Sq Ft (1)	Wkdy Trip Ends Per Employee (1)	Emp Per 1,000 Sq Ft	Sq Ft Per Emp (2)
Commercial / Shopping Ctr (820)				
25K gross leasable area	110.32	n/a	3.33	300
50K gross leasable area	86.56	n/a	2.86	350
100K gross leasable area	67.91	n/a	2.50	400
200K gross leasable area	53.28	n/a	2.22	450
400K gross leasable area	41.80	n/a	2.00	500
Free-Standing Discount Store (815)	56.02	n/a	4.44	225
General Office (710)				
10K gross floor area	22.66	5.06	4.48	223
25K gross floor area	18.35	4.43	4.14	241
50K gross floor area	15.65	4.00	3.91	256
100K gross floor area	13.34	3.61	3.70	271
Research and Development Center (760)	8.11	2.77	2.93	342
Medical Clinic (630)	5.18	0.90	5.76	174
Industrial				
Business Park (770)***	12.76	4.04	3.16	317
Mini-Warehouse (151)	2.50	56.28	0.04	22,512
Light Industrial (110)	6.97	3.02	2.31	433
Warehousing (150)	4.96	3.89	1.28	784
Manufacturing (140)	3.82	2.13	1.79	558

1) *Trip Generation , Institute of Transportation Engineers, 2003.*

2) *Square feet per employee calculated from trip rates except for Shopping Center data, which are derived from the Urban Land Institute's Development Handbook and Dollars and Cents of Shopping Centers.*

How Absorption Impacts the Fiscal Results

The absorption methodology presented above maintains the same pace of growth (same total number of residential units and square feet of nonresidential development annually) allowing for comparison of the net fiscal impact of development within the current service area versus the fiscal impact of development that occurs within and beyond the current service area. Because growth occurs throughout the twenty-year timeframe in both scenarios, it is possible to compare the net fiscal impact of the full twenty year period.

Each of the two Scenarios will be different as growth within each area is different in Scenario One versus Scenario Two due to the amount of land available for development. For example, the amount of land available for development in Area A increases by 73% in Scenario Two while Area B increases by 238% so growth shifts from Area A to Area B in Scenario Two. This is shown in the following sections, which show the detail of development absorption by area.

Additionally, with growth occurring over a wider area in Scenario Two, there will be additional operating and capital costs triggered.

Residential Absorption by Area

As noted previously, the total annual residential growth in Areas A, B, C, D, and E is derived from the logarithmic projection of total growth while areas F and G are projected logarithmically so that both are built out within the twenty-year timeframe. The total units projected annually in areas F and G are subtracted from the total number of units per year to determine annual growth in Areas A, B, C, D, and E. The total growth in these five areas is then allocated to each area based on the percentage of total units in each area.

Similarly, for areas A, B, C, D, and E, the total number of units are allocated by type of unit based on the percentage of total units. For example, 6% of all units in these areas in Scenario One are Single Family Detached High Price Point units, so 6% of the total units are allocated to this type of unit as shown in Figure C-12 below. In year one, 6% of the 134 units are 8 Single Family Detached High Price Point units.

Figure C-12: Allocation of Units by Type in Scenario One

SCENARIO ONE: WITHIN EXISTING SERVICE AREA							*five year-intervals*		
	Percent of Total	*2010*	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
SFD High PP	6%	8	12	14	16	17	22	27	29
SFD Med PP	25%	33	51	62	70	75	94	117	125
SFD Low PP	16%	21	32	39	44	47	59	73	78
Attached	13%	18	27	33	37	40	50	62	66
Multi-family	41%	55	85	102	115	124	154	193	206
SUM		134	207	250	281	304	378	472	505
Units Added Per Year in Scenario One--									
Areas A, B, C, D, & E		**134**	**207**	**250**	**281**	**304**	**378**	**472**	**505**

The same methodology is used to allocate units by type in Scenario Two. As shown in Figure C-13, 8% of total units are Single Family Detached High Price Point units, so 10 of the 134 units in FY2010 are Single Family Detached High Price Point.

Figure C-13: Allocation of Units by Type in Scenario Two

SCENARIO TWO: WITHIN EXISTING SERVICE AREA							*five year-intervals*		
	Percent of Total Units	*2010*	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
SFD High PP	8%	10	16	19	22	24	29	33	35
SFD Med PP	29%	39	60	72	81	88	109	122	130
SFD Low PP	20%	27	42	51	58	62	77	86	92
Attached	16%	22	34	41	46	50	62	69	74
Multi-family	26%	35	55	66	74	81	100	111	119
SUM		134	207	250	281	304	378	421	450
Units Added Per Year in Scenario One--									
Areas A, B, C, D, & E		**134**	**207**	**250**	**281**	**304**	**378**	**421**	**450**

Units are allocated by area with a similar methodology. For example, 10% of the total Single Family Detached High Price Point units in Scenario One are located in Area A (32 Single Family Detached High Price Point units in Area A / 506 Single Family Detached High Price Point units in Areas A-E = 10%). Thus, for FY2010, 10% of 8 units (shown in Figure C-12 above), or one unit, are allocated to Area A in Scenario One.

Figure C-14: Allocation of Units in Area A, Scenario One

SCENARIO ONE: AREA A							*five year-intervals*		
	Percent of Units in Area A	*2010*	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
SFD High PP	10%	1	1	1	2	2	2	3	3
SFD Med PP	19%	6	10	12	13	14	18	22	24
SFD Low PP	28%	6	9	11	12	13	16	20	22
Attached	9%	2	2	3	3	3	4	5	6
Multi-family	76%	41	64	77	87	94	117	146	156
Total Units Added Per Year in Area A		56	86	104	117	126	157	196	210

On the other hand, in Scenario Two, Area A has 16% of the Single Family Detached High Price Point units (297 units in Area A / 1,849 units in Areas A-E = 8%). In FY2010 then, Area A has 2 Single Family Detached High Price Point units (16% x 10 = 2).

TischlerBise
Fiscal, Economic & Planning Consultants

Figure C-15: Allocation of Units in Area A, Scenario Two

SCENARIO TWO: AREA A							*five year-intervals*		
	Percent of Units in Area A	*2010*	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
SFD High PP	16%	2	3	3	3	4	5	5	5
SFD Med PP	18%	7	11	13	14	15	19	21	23
SFD Low PP	21%	6	9	11	12	13	16	18	19
Attached	16%	3	5	6	7	8	10	11	11
Multi-family	46%	17	27	33	36	40	49	55	59
Total Units Added Per Year in Area A		35	54	65	73	79	99	110	117

The allocation of residential units in Areas B, C, D, and E is calculated using the same methodology; please see the Appendix for the results.

Area F uses a different methodology for calculating the total number of units absorbed annually because it is anticipated that build-out will occur in this area in both scenarios due to its location around an interstate interchange.

The logarithmic projection of total units Area F, shown in Figure C-16 below, assumes average growth of 45 units per year with a minimum of 19 units in FY2010 and a maximum of 55 units in FY2029.

Figure C-16: Logarithmic Projection of Units in Area F
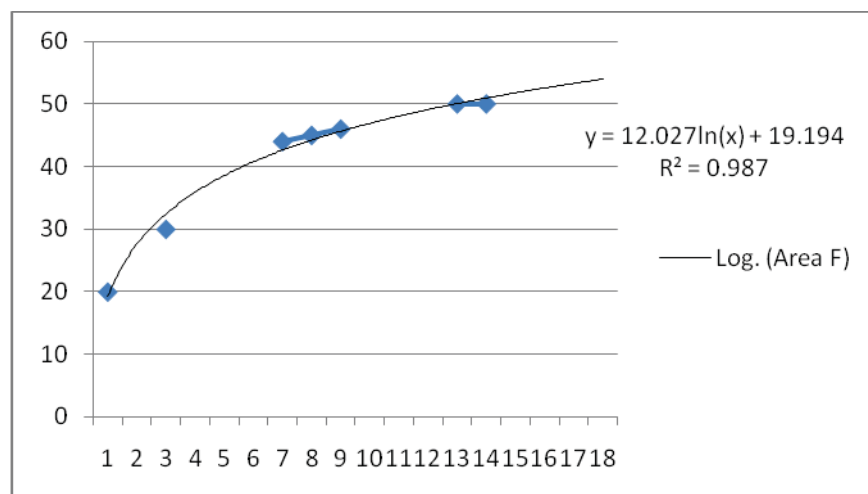
In Area F, units are allocated by type based on their percentage of total units in the area. For example, 32% of the units in Area F in Scenario One are attached housing. Thus, in FY2010, of the 19 units absorbed, 32%, or 6 units, are attached (19 x 32% = 6).

Figure C-17: Residential Absorption in Area F

SCENARIO TWO: AREA F							*five year-intervals*		
Allocation of Units in Area F by Type		*2010*	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
SFD Med PP	14%	3	4	4	5	5	6	7	7
Attached	32%	6	9	10	11	12	15	16	18
Multi-family	54%	10	15	17	19	21	25	28	30
Total Units Added Per Year in Area F		19	27	32	35	38	46	51	55

Area G also uses a logarithmic projection to forecast the annual absorption because it is infill development that is likely to build out within the twenty-year timeframe. In Area G, an average of 21 units is absorbed annually with a minimum of 9 units in FY2010 and a maximum of 26 units in FY2029.

Figure C-18: Logarithmic Projection of Units in Area G
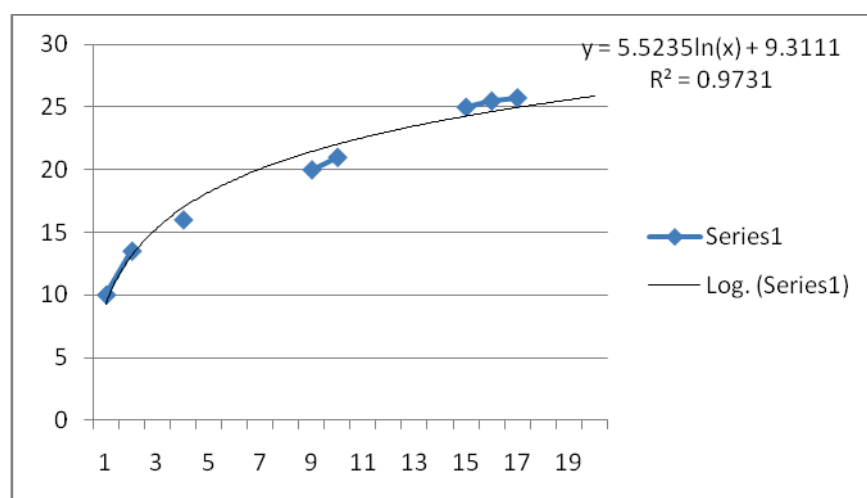
Scenarios One and Two are the same for Area G because it is infill development that is all within the bounds of the existing sanitary sewer service area. All units in Area G are multi-family so there is no allocation by type of unit.

Figure C-19: Residential Absorption in Area G

AREA G						*five year-intervals*		
	2010	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
Multi-family	9	13	15	17	18	22	24	26
Total Units Added Per Year in Area G	9	13	15	17	18	22	24	26

In Scenario One, total single family detached units average 169 units annually ranging from 61 to 220 units while attached units average 54 units per year and multi-family averages 200 units annually. This is consistent with past experience in Champaign. The absorption in Scenario Two is also consistent with past experience averaging 206 single family detached units per year; attached housing averages 72 units per year and multi-family 145 units annually.

Total Residential Absorption

Over the twenty-year period, the total residential absorption is 8,453 units in both Scenario One and Scenario Two. Figure C-20 shows the breakdown of units by type and area for Scenario One while Figure C-21 shows the total absorption by type and area for Scenario Two.

Figure C-20: Scenario One Total Residential Absorption

	Fiscal Analysis Zone (FAZ)							
	A: Olympian & Prospect	B: Olympian ext.	C: Bradley & Staley	D: Staley & Kirby	E: Southwest Champaign	F: Curtis Interchange	G: Infill	TOTAL
Population	6,141	769	1,820	3,984	4,509	778	699	**18,700**
Housing Units								
Single Family Detached High PP	41	25	26	174	170	0	0	**435**
Single Family Detached Medium PP	356	116	210	646	565	55	0	**1,948**
Single Family Detached Low PP	329	66	68	269	452	0	0	**1,183**
Attached Housing	86	51	272	243	352	130	0	**1,134**
Multi-family Units	2,361	43	244	174	294	217	419	**3,752**
Total Housing Units	**3,173**	**300**	**819**	**1,506**	**1,833**	**402**	**419**	**8,453**

Figure C-21: Scenario Two Total Residential Absorption

	Fiscal Analysis Zone (FAZ)							
	A: Olympian & Prospect	B: Olympian ext.	C: Bradley & Staley	D: Staley & Kirby	E: Southwest Champaign	F: Curtis Interchange	G: Infill	TOTAL
Population	4,113	3,457	2,357	3,976	3,133	1,706	699	**19,440**
Housing Units								
Single Family Detached High PP	89	109	74	158	123	0	0	**553**
Single Family Detached Medium PP	372	467	289	549	390	119	0	**2,187**
Single Family Detached Low PP	312	291	197	353	312	0	0	**1,466**
Attached Housing	184	227	229	287	243	286	0	**1,457**
Multi-family Units	950	314	197	229	203	478	419	**2,790**
Total Housing Units	**1,907**	**1,408**	**986**	**1,577**	**1,273**	**883**	**419**	**8,453**

Nonresidential Absorption by Area

Nonresidential development is projected using the current population to jobs ratio of 1.89. Thus, nonresidential growth follows the logarithmic projection of residential growth.

The total jobs are allocated by type by using the percentage of total jobs in that area. For example, as shown in Figure C-22, in Area A at build-out of Scenario One, the distribution of jobs is 35% industrial, 44% office, and 21% neighborhood retail. These percentages are multiplied by the total jobs added in Scenario One. For example, by FY2029, 3,256 jobs have been added in Scenario One. 35% of those jobs are industrial (3,256 x 35% = 1,138 jobs). These

1,138 jobs are converted to square footage by multiplying 1,138 x 784 square feet per job, which equals 892,302 square feet of industrial space added in Area A by FY2029.

These jobs numbers are then converted to square footage using job density factors taken from the Institute of Transportation Engineers' Trip Generation Manual.

Figure C-22: Scenario One Nonresidential

Area A

Scenario One						five-year increments			
fiscal year-->		*2010*	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
Population	55,137	107	274	475	701	946	2,362	4,160	6,141
Pop to Jobs	1.89								
Jobs	*29,239*	*57*	*145*	*252*	*372*	*501*	*1,253*	*2,206*	*3,256*
Industrial	35%	20	51	88	130	175	438	771	1,138
Office	44%	25	64	111	164	221	553	974	1,438
Neighborhood Commercial	21%	12	30	53	78	105	262	461	680
Square Footage									
Industrial	*784*	15,617	39,826	69,064	101,865	137,417	343,225	604,526	892,302
Office	*241*	6,064	15,465	26,818	39,555	53,360	133,277	234,742	346,488
Neighborhood Commercial	*350*	4,168	10,630	18,434	27,189	36,678	91,612	161,357	238,168

Area B

Scenario One						five-year increments			
fiscal year-->		*2010*	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
Population		13	34	60	88	118	296	521	769
Pop to Jobs	1.89								
Jobs		*7*	*18*	*32*	*47*	*63*	*157*	*276*	*408*
Industrial	3%	0	1	1	2	2	5	9	14
Office	87%	6	16	28	41	55	137	242	357
Neighborhood Commercial	9%	1	2	3	4	6	14	25	37
Square Footage									
Industrial	*784*	191	487	845	1,246	1,681	4,199	7,396	10,917
Office	*241*	1,504	3,836	6,653	9,812	13,237	33,062	58,232	85,952
Neighborhood Commercial	*350*	227	580	1,005	1,482	2,000	4,995	8,798	12,986

Area C

Scenario One						five-year increments			
fiscal year-->		*2010*	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
Population		32	81	141	208	280	700	1,233	1,820
Pop to Jobs	1.89								
Jobs		*17*	*43*	*75*	*110*	*149*	*371*	*654*	*965*
Industrial	68%	11	29	50	74	100	251	442	652
Office	14%	2	6	11	16	21	53	93	137
Neighborhood Commercial	18%	3	8	14	20	27	68	119	176
Square Footage									
Industrial	*784*	8,948	22,818	39,569	58,362	78,731	196,646	346,354	511,230
Office	*241*	579	1,477	2,560	3,777	5,095	12,725	22,412	33,081
Neighborhood Commercial	*350*	1,077	2,747	4,763	7,026	9,478	23,672	41,694	61,542

Absorption

TischlerBise
Fiscal, Economic & Planning Consultants

Area D

Scenario One

	fiscal year-->	2010	2011	2012	2013	*five-year increments*			
						2014	2019	2024	2029
Population		70	178	308	455	614	1,532	2,699	3,984
Pop to Jobs	1.89								
Jobs		*37*	*94*	*164*	*241*	*325*	*813*	*1,431*	*2,113*
Industrial	33%	12	31	53	79	106	266	468	690
Office	30%	11	28	48	71	96	240	422	624
Neighborhood Commercial	38%	14	36	62	91	123	307	541	799
Square Footage									
Industrial	*784*	9,471	24,153	41,885	61,778	83,338	208,154	366,623	541,149
Office	*241*	2,630	6,707	11,631	17,156	23,143	57,804	101,811	150,276
Neighborhood Commercial	*350*	4,893	12,478	21,638	31,915	43,054	107,536	189,404	279,568

Area E

Scenario One

	fiscal year-->	2010	2011	2012	2013	*five-year increments*			
						2014	2019	2024	2029
Population		79	201	349	515	694	1,735	3,055	4,509
Pop to Jobs	1.89								
Jobs		*42*	*107*	*185*	*273*	*368*	*920*	*1,620*	*2,391*
Industrial	0%	0	0	0	0	0	0	0	0
Office	44%	18	47	81	120	161	403	710	1,048
Neighborhood Commercial	56%	24	60	104	153	207	517	910	1,343
Square Footage									
Industrial	*784*	-	-	-	-	-	-	-	-
Office	*241*	4,422	11,277	19,556	28,844	38,910	97,186	171,174	252,660
Neighborhood Commercial	*350*	8,227	20,979	36,381	53,659	72,387	180,800	318,445	470,037

Area F

Scenario One

	fiscal year-->	2010	2011	2012	2013	*five-year increments*			
						2014	2019	2024	2029
Population		37	92	151	220	293	712	778	778
Pop to Jobs	1.89								
Jobs		*20*	*49*	*80*	*116*	*155*	*377*	*413*	*413*
Industrial	0%	0	0	0	0	0	0	0	0
Office	29%	6	14	24	34	46	111	122	122
Big Box Commercial	71%	14	34	57	82	109	266	291	291
Square Footage									
Industrial	*784*	-	-	-	-	-	-	-	-
Office	*241*	1,410	3,463	5,709	8,273	11,031	26,817	29,319	29,319
Big Box Commercial	*225*	3,149	7,731	12,744	18,469	24,625	59,867	65,452	65,452

Area G

Scenario One						*five-year increments*			
	fiscal year-->	*2010*	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
Population		15	37	62	90	120	292	487	699
Pop to Jobs	1.89								
Jobs		*8*	*19*	*33*	*48*	*64*	*155*	*258*	*371*
Neighborhood Commercial	100%	8	19	33	48	64	155	258	371
Square Footage									
Neighborhood Commercial	*350*	2,786	6,811	11,455	16,718	22,290	54,178	90,400	129,718

The same methodology is used to convert population to jobs and jobs to square footage in Scenario Two. The results are shown below in Figure C-23.

Figure C-23: Scenario Two Nonresidential Absorption

Area A

Scenario Two						*five-year increments*			
	fiscal year-->	*2010*	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
Population		77	196	340	501	676	1,688	2,851	4,113
Pop to Jobs	1.89								
Jobs		*41*	*104*	*180*	*266*	*358*	*895*	*1512*	*2181*
Industrial	36%	15	38	65	96	130	324	547	790
Office	43%	17	45	77	114	154	384	649	936
Neighborhood Commercial	21%	9	22	38	56	75	187	316	456
Square Footage									
Industrial	*784*	11,564	29,491	51,141	75,430	101,755	254,154	429,116	619,094
Office	*241*	4,212	10,742	18,628	27,475	37,064	92,574	156,302	225,500
Neighborhood Commercial	*350*	2,978	7,595	13,171	19,426	26,206	65,455	110,515	159,443

Area B

Scenario Two						*five-year increments*			
	fiscal year-->	*2010*	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
Population		65	165	286	421	568	1,419	2,396	3,457
Pop to Jobs	1.89								
Jobs		*34*	*87*	*151*	*223*	*301*	*753*	*1271*	*1833*
Industrial	4%	1	4	7	10	13	32	55	79
Office	79%	27	69	120	177	239	597	1009	1455
Neighborhood Commercial	16%	6	14	25	36	49	123	207	299
Square Footage									
Industrial	*784*	1,157	2,949	5,115	7,544	10,177	25,419	42,917	61,917
Office	*241*	6,552	16,709	28,975	42,736	57,651	143,995	243,123	350,758
Neighborhood Commercial	*350*	1,953	4,982	8,639	12,742	17,188	42,932	72,486	104,577

Area C

Scenario Two

						five-year increments			
fiscal year-->		2010	2011	2012	2013	2014	2019	2024	2029
Population		44	112	195	287	387	968	1,634	2,357
Pop to Jobs	1.89								
Jobs		*23*	*60*	*103*	*152*	*205*	*513*	*866*	*1250*
Industrial	9%	2	6	10	14	19	49	82	118
Office	40%	9	24	41	60	82	204	344	496
Neighborhood Commercial	51%	12	30	52	77	104	261	440	635
Square Footage									
Industrial	*784*	1,734	4,422	7,668	11,310	15,257	38,108	64,341	92,826
Office	*241*	2,233	5,695	9,876	14,567	19,651	49,082	82,870	119,558
Neighborhood Commercial	*350*	4,155	10,595	18,373	27,100	36,557	91,310	154,168	222,421

Area D

Scenario Two

						five-year increments			
fiscal year-->		2010	2011	2012	2013	2014	2019	2024	2029
Population		74	189	328	484	653	1,632	2,756	3,976
Pop to Jobs	1.89								
Jobs		*39*	*100*	*174*	*257*	*347*	*866*	*1461*	*2108*
Industrial	11%	4	11	20	29	39	99	166	240
Office	39%	15	39	68	100	135	336	568	819
Neighborhood Commercial	50%	20	50	87	128	172	431	727	1049
Square Footage									
Industrial	*784*	3,515	8,963	15,543	22,925	30,925	77,242	130,417	188,155
Office	*241*	3,687	9,404	16,307	24,052	32,446	81,041	136,830	197,408
Neighborhood Commercial	*350*	6,860	17,494	30,337	44,745	60,362	150,765	254,553	367,249

Area E

Scenario Two

						five-year increments			
fiscal year-->		2010	2011	2012	2013	2014	2019	2024	2029
Population		59	149	259	382	515	1,286	2,171	3,133
Pop to Jobs	1.89								
Jobs		*31*	*79*	*137*	*202*	*273*	*682*	*1151*	*1661*
Industrial	0%	0	0	0	0	0	0	0	0
Office	44%	14	35	60	89	120	299	505	728
Neighborhood Commercial	56%	17	44	77	114	153	383	647	933
Square Footage									
Industrial	*784*	0	0	0	0	0	0	0	0
Office	*241*	3,279	8,361	14,499	21,386	28,849	72,057	121,662	175,524
Neighborhood Commercial	*350*	6,100	15,555	26,974	39,785	53,670	134,052	226,334	326,536

TischlerBise
Fiscal, Economic & Planning Consultants

Area F

Scenario Two						*five-year increments*			
fiscal year-->		*2010*	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
Population		37	92	151	220	293	712	1,192	1,706
Pop to Jobs	1.89								
Jobs		*20*	*49*	*80*	*116*	*155*	*377*	*632*	*905*
Industrial	0%	0	0	0	0	0	0	0	0
Office	33%	7	16	27	39	52	125	210	300
Big Box Commercial	67%	13	33	54	78	104	252	422	604
Square Footage									
Industrial	*784*	-	-	-	-	-	-	-	-
Office	*241*	1,588	3,900	6,428	9,316	12,421	30,197	50,568	72,389
Big Box Commercial	*225*	2,983	7,323	12,072	17,496	23,327	56,711	94,968	135,949

Area G

Scenario Two						*five-year increments*			
fiscal year-->		*2010*	*2011*	*2012*	*2013*	*2014*	*2019*	*2024*	*2029*
Population		15	37	62	90	120	292	487	699
Pop to Jobs	1.89								
Jobs		*8*	*19*	*33*	*48*	*64*	*155*	*258*	*371*
Neighborhood Commercial	100%	8	19	33	48	64	155	258	371
Square Footage									
Neighborhood Commercial	*350*	2,786	6,811	11,455	16,718	22,290	54,178	90,400	129,718

Total Nonresidential Absorption

Over the twenty-year period, the total nonresidential absorption is 4 million square feet of development and 9,812 jobs. Figure C-24 shows the breakdown of jobs by type and area as well as square footage by area for Scenario One.

Figure C-24: Scenario One Total Nonresidential Absorption

	Fiscal Analysis Zone (FAZ)							
	A: Olympian & Prospect	B: Olympian ext.	C: Bradley & Staley	D: Staley & Kirby	E: Southwest Champaign	F: Curtis Interchange	G: Infill	TOTAL
Nonresidential Building Area	1,476,958	109,855	605,853	970,993	722,696	94,770	129,718	4,110,843
Employment								
Industrial	1,138	14	652	690	0	0	0	2,494
Office	1,438	357	137	624	1,048	122	0	3,725
Neighborhood Retail	680	37	176	799	1,343	187	371	3,593
Big Box Commercial	0	0	0	0	0	0	0	0
Total Employment	3,256	408	965	2,113	2,391	309	371	9,812

TischlerBise
Fiscal, Economic & Planning Consultants

In Scenario Two, the total nonresidential square footage of development is 3.6 million with 10,309 jobs. Figure C-25 shows the breakdown of jobs by type and area as well as square footage by area for Scenario One.

Figure C-25: Scenario Two Total Nonresidential Absorption

	Fiscal Analysis Zone (FAZ)							
	A: Olympian & Prospect	B: Olympian ext.	C: Bradley & Staley	D: Staley & Kirby	E: Southwest Champaign	F: Curtis Interchange	G: Infill	TOTAL
Nonresidential Building Area	1,004,037	517,252	434,806	752,812	502,060	208,338	129,718	**3,549,023**
Employment								
Industrial	790	79	118	240	0	0	0	**1,227**
Office	936	1,455	496	819	728	300	0	**4,735**
Neighborhood Retail	456	299	635	1,049	933	0	371	**3,743**
Big Box Commercial	0	0	0	0	0	604	0	**604**
Total Employment	**2,181**	**1,833**	**1,250**	**2,108**	**1,661**	**905**	**371**	**10,309**