

Lincoln Impact Fee Study

for Arterial Streets, Water, Wastewater, and Neighborhood Parks and Trails



October 2002

prepared by

Duncan Associates

Clancy Mullen, AICP, Principal Author

13276 Research Boulevard, Suite 208

Austin, Texas 78750

512-258-7347

www.duncanplan.com

How'd We Get Here?

- Late 1990's→more aggressive Comprehensive Plan and CIP.
- Result: “Category 5 CIP”-water, sewer, streets.
- Funding Gap Identified: \$279 mil. (2003-'08).
- Search for alternative funding beyond traditional means of funding growth.

The “GAP”-Two Points

- Inflation--Not included in the analysis.
- O&M—Not included in the analysis.



On-site Improvements

(Developer Provided Pipes & Pavement)

- 2-lane roadway
- 8-inch sanitary sewer main
- 6-inch water main



KEY WORDS for Impact Fee **Discussion**

- Operations & maintenance expense.
- Capital (construction project) costs.
- Off-site improvements.
- Rational nexus.
- Service unit costs.

Operations & Maintenance Expense

Water Distribution System

- 9,400 Fire Hydrants
- 22,000 Valves



Capital Construction



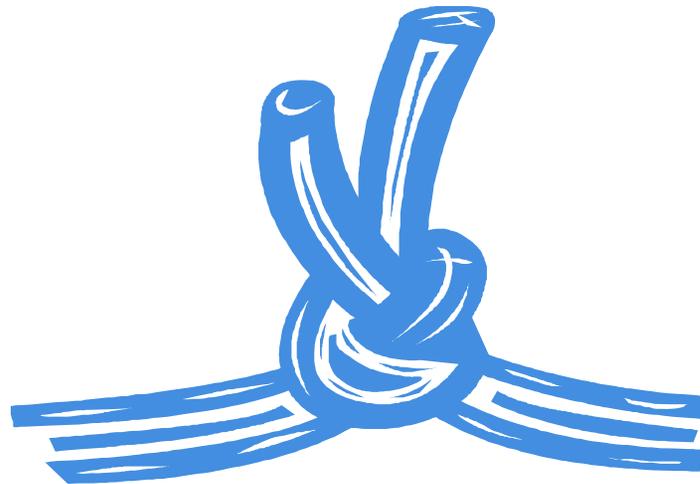
Off-site improvements

- Major system facilities needed in support of growth.
- Includes arterial streets, larger pipelines, treatment, etc.



“Rational Nexus”

A fee charged must be reasonably related to the needs created by the project.



Service Unit

A service unit is a common unit of demand and capacity:

"a standardized measure of consumption, use, generation or discharge."



Service Units

- Arterial streets: Vehicle miles travelled (VMT).
- Water: single family equivalent (SFE)- maximum potential demand (water meter size: $\frac{3}{4}$ -inch, 1-inch, etc).
- Wastewater: (SFE)- discharge flow (gallons based upon water meter size).

**Table 1
MAXIMUM POTENTIAL FEES BY LAND USE**

Facility Type	Single-Family (unit)	Multi-Family (unit)	Retail (10,000 sq. ft.)	Office (10,000 sq. ft.)	Industrial (10,000 sq. ft.)
Arterial Streets*	\$3,212	\$1,955	\$42,510	\$47,160	\$28,980
Water**	\$3,669	\$611	\$3,910	\$3,910	\$3,910
Wastewater**	\$1,815	\$302	\$1,940	\$1,940	\$1,940
Neighborhood Parks and Trails	\$321	\$190	\$0	\$0	\$0
Total	\$9,017	\$3,059	\$48,360	\$53,010	\$34,830

* excludes ROW costs

** multi-family unit assumes 6" meter per 200 units; nonresidential assumes 3" meter for 100,000 sq. ft.

Source: Maximum fees from Tables 11, 26, 34 and 49.

Table 2

Potential Annual Impact Fee Revenue/Assets

Facility Type	Total
Arterial Streets	\$ 9,213,000
Water	6,648,000
Wastewater	<u>3,289,000</u>
Total	\$19,150,000

Annual growth estimates of 1,200 single-family units, 250,000 sq. ft. retail, 550,000 sq. ft. office/service and 250,000 sq. ft. industrial. (March 1, 2002)

Arterial Streets

- Travel demand.
 Trip generation/ % New Trips/ Length
- Vehicle miles travelled.
- Cost per lane mile construction.
- A service unit is calculated.

Basis for Arterial Street Service Unit?

- Apply a “Consumption” or “Improvements Driven” Calculation????

Improvements Driven-divides projected growth costs by increasing service units. Requires accurate forecast.

Consumption Driven-charges the net cost to construct one more service unit of capacity.



**Table 11
ARTERIAL STREET NET COST SCHEDULE**

Land Use Type	Unit	Pk Hr VMT	Net Cost/ VMT	Net Cost/ Unit
Single-Family Detached	Dwelling	2.35	\$1,367	\$3,212
Duplex/Single-Family Attached	Dwelling	1.24	\$1,367	\$1,695
Multi-Family	Dwelling	1.43	\$1,367	\$1,955
Multi-Family Elderly/Retirement	Dwelling	0.36	\$1,367	\$492
Mobile Home Park	Dwelling	1.29	\$1,367	\$1,763
RETAIL/COMMERCIAL				
Hotel/Motel	Room	0.84	\$1,367	\$1,148
Gen Retail/Shopping Ctr (<100,000 sf)	1000 sq. ft.	3.45	\$1,367	\$4,716
Gen Retail/Shopping Ctr (100,000-299,999 sf)	1000 sq. ft.	3.11	\$1,367	\$4,251
Gen Retail/Shopping Ctr (300,000-499,999 sf)	1000 sq. ft.	3.00	\$1,367	\$4,101
Gen Retail/Shopping Ctr (500,000-999,999 sf)	1000 sq. ft.	2.76	\$1,367	\$3,773
Gen Retail/Shopping Ctr (1 million sf+)	1000 sq. ft.	2.67	\$1,367	\$3,650
Bank	1000 sq. ft.	6.66	\$1,367	\$9,104
Convenience Store with Gasoline Sales	1000 sq. ft.	4.36	\$1,367	\$5,960
Movie Theater	1000 sq. ft.	2.57	\$1,367	\$3,513
Restaurant, Fast Food	1000 sq. ft.	4.07	\$1,367	\$5,564
Restaurant, Sit-Down	1000 sq. ft.	3.85	\$1,367	\$5,263
OFFICE/INSTITUTIONAL				
Office, General	1000 sq. ft.	3.45	\$1,367	\$4,716
Office, Medical	1000 sq. ft.	6.59	\$1,367	\$9,009
Hospital	1000 sq. ft.	1.66	\$1,367	\$2,269
Nursing Home	1000 sq. ft.	0.65	\$1,367	\$889
Church	1000 sq. ft.	1.02	\$1,367	\$1,394
Day Care Center	1000 sq. ft.	4.28	\$1,367	\$5,851
Elementary/Secondary School	1000 sq. ft.	0.38	\$1,367	\$519
INDUSTRIAL				
Light Industrial/Industrial Park	1000 sq. ft.	2.12	\$1,367	\$2,898
Manufacturing	1000 sq. ft.	1.70	\$1,367	\$2,324
Warehouse	1000 sq. ft.	1.20	\$1,367	\$1,640
Mini-Warehouse	1000 sq. ft.	0.35	\$1,367	\$478
RECREATIONAL				
Amusement Park	Acre	5.35	\$1,367	\$7,313
Bowling Alley	1000 sq. ft.	4.78	\$1,367	\$6,534
Golf Course	Hole	3.70	\$1,367	\$5,058
Golf Driving Range	Tee	1.70	\$1,367	\$2,324
Health Club	1000 sq. ft.	2.90	\$1,367	\$3,964
Miniature Golf Course	Hole	0.46	\$1,367	\$629
Park	Acre	0.54	\$1,367	\$738

Source: Peak hour vehicle-miles of travel per unit from Table 10; net cost per VMT from Table 5.

**TABLE 11
ARTERIAL STREET NET COST SCHEDULE**

Land use Type	Unit	Pk Hr VMT	Net Cost/ VMT	Net Cost/ Unit
Single Family Detached	Dwelling	2.35	\$1,367	\$3,212
•				
RETAIL/COMMERCIAL				
Hotel/Motel	Room	0.84	\$1367	\$1,148
Gen. Rental/Shopping (<100,000 sq. ft)		3.45	\$1367	\$4,716
Gen. Rental/Shopping (<100k -299+k)		3.11	\$1367	\$4,251
Gen. Rental/Shopping (<300k -499+k)		3.00	\$1367	\$4,101
•				
Office/Institutional				
•				
Industrial				
•				
Recreational				

Selected entries from Table 11, Lincoln Impact Fee Study

Water System Off-site Improvements

- Distribution mains (large diameter pipes 12-inch;16-inch)
-

“System costs”

- Storage (pumping stations & elevated storage)
- Transmission mains (24-inch; 36-inch; 48-inch; 54-inch; 60-inch)
- Treatment facilities.
- Wells (vertical & horizontal)

Table 23
WATER COST PER SERVICE UNIT

Treatment Plant/Transmission Cost per SFE	\$1,320
Storage Reservoir Cost per SFE	\$751
Pumping Station Cost per SFE	\$438
Subtotal, Water System Cost per SFE	\$2,509
Distribution Main Cost per SFE	\$1,560
Total Water System Cost per SFE	\$4,069

Source: Treatment plant cost from Table 14; storage reservoir cost from Table 17; pumping station cost from Table 20; distribution main cost from Table 22.

Table 25
WATER NET COST PER SERVICE UNIT

	System	Distribution	Total
Water System Capital Cost per SFE	\$2,509	\$1,560	\$4,069
Water Debt Service Credit per SFE	\$247	\$153	\$400
Water Net Capital Cost per SFE	\$2,262	\$1,407	\$3,669

Source: Capital cost from Table 23; debt service credit from Table 24.

**Table 26
WATER NET COST PER METER**

Meter Size	SFEs/ Meter	System Net Cost		Distribution Net Cost		Total Net Cost/ Meter
		per SFE	per Meter	per SFE	per Meter	
3/4"	1.00	\$2,262	\$2,262	\$1,407	\$1,407	\$3,669
1"	1.67	\$2,262	\$3,778	\$1,407	\$2,350	\$6,128
1-1/2"	3.33	\$2,262	\$7,532	\$1,407	\$4,685	\$12,217
2"	5.33	\$2,262	\$12,056	\$1,407	\$7,499	\$19,555
3"	10.67	\$2,262	\$24,136	\$1,407	\$15,013	\$39,149
4"	16.67	\$2,262	\$37,708	\$1,407	\$23,455	\$61,163
6"	33.33	\$2,262	\$75,392	\$1,407	\$46,895	\$122,287
8"	53.33	\$2,262	\$120,632	\$1,407	\$75,035	\$195,667
10"	76.67	\$2,262	\$173,428	\$1,407	\$107,875	\$281,303

Source: SFEs per meter from Table 12; net costs per SFE from Table 25.

Wastewater Offsite Improvements

- Pipelines larger than 8-inch
(12-inch to 90-inch)
- Treatment facilities.
 - Theresa Street Plant
 - Northeast Wastewater Treatment Plant

Table 31
WASTEWATER TOTAL COST PER SERVICE UNIT

Treatment Plant Cost per SFE	\$777
Sewer Trunk Line Cost per SFE	\$1,103
Total Wastewater Cost per SFE	\$1,880

Source: Treatment plant cost from Table 28; sewer trunk line cost from Table 30.

Table 33
WASTEWATER NET COST PER SERVICE UNIT

Wastewater System Capital Cost	\$1,880
Wastewater Debt Service Credit	\$65
Wastewater Net Capital Cost	\$1,815

Source: Capital costs from Table 31; debt service credits from Table 32.

As described earlier, a wastewater service unit represents the demand of a typical single-family connection, which is a 3/4" meter. Multiplying the service units associated with each meter size by the net cost per service unit calculated above gives the net cost per water meter for meters of various sizes, as shown in Table 34. These represent the maximum wastewater impact fees that can be assessed by the City of Lincoln based on the data, assumptions and methodology presented in this report.

Table 34
WASTEWATER NET COST PER METER

Meter Size	SFEs/Meter	Net Cost/SFE	Net Cost/Meter
3/4"	1.00	\$1,815	\$1,815
1"	1.67	\$1,815	\$3,031
1-1/2"	3.33	\$1,815	\$6,044
2"	5.33	\$1,815	\$9,674
3"	10.67	\$1,815	\$19,366
4"	16.67	\$1,815	\$30,256
6"	33.33	\$1,815	\$60,494
8"	53.33	\$1,815	\$96,794
10"	76.67	\$1,815	\$139,156

Source: SFEs per meter from Table 12; net cost per SFE from Table 33.

Table 2

Potential Annual Impact Fee Revenue/Assets

Facility Type	Total
Arterial Streets	\$ 9,213,000
Water	6,648,000
Wastewater	<u>3,289,000</u>
Total	\$19,150,000

Annual growth estimates of 1,200 single-family units,
250,000 sq. ft. retail, 550,000 sq. ft. office/service and
250,000 sq. ft. industrial. (March 1, 2002)

What Was the Original Goal for Impact Fee Collection?

- For Water & Wastewater
 - To begin @ 20% in '03
 - Advance to 50% of sfe in '07.
- For Streets
 - To begin at 50% in '03
 - Advance to 100% in '07



Impact Fee Revenues

Total actual collected*

- 2003/04 \$3.7 mil.
- Cumulative thru 06/07 \$20.1 mil. **

* Streets, Water, Wastewater

** Compares to the annual potential \$19,150,000 for 2002.

Example Project Funding for the Wastewater CIP 07/08

Upper Beal Slough-Ext trunk-S.70thTravis Dr to 84th St.

	\$100,000 Revenue Bond
	<u>\$400,000 Impact Fees</u>
Total	\$500,000

Note: '07/08 appropriations for are \$5,849,000 with
impact fees funding \$970,000.

Calculated Maximum Impact Fee -- Service Unit
Determinations
2002 & 2006

	<u>2002</u>	<u>2006</u>
Arterial Streets	\$3,212	\$2,788
Water	3,669	3,858
Wastewater	<u>1,815</u>	<u>2,521</u>
Total	\$8,696	\$9,167

Comparisons: Fees Charged to Maximum Potential Fee (single family unit)

Year	2003		2006	
	Fee	% of Max.	Fee	% of Max
Streets	\$1225	38	\$2197	79
Water	750	20	1022	27
Wastewater	<u>375</u>	<u>21</u>	<u>505</u>	<u>20</u>
	\$ 2350	27%	\$3723	41%

- Total maximum fee for 2002=\$8,696
- Total maximum fee for 2006=\$9,167

Questions?

