Kane County
Division of Transportation

Technical Specifications Manual for Road Improvement Impact Fees Under Kane County Ordinance #07-*nnn*

PUBLIC HEARING DRAFT

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Section 1: Introduction to the Impact Fee and Fee Formula

The State of Illinois Road Improvement Impact Fee Law (605 ILCS 5/5-901 *et. seq.*) entitles Kane County to assess road improvement impact fees on new development based on the proportional traffic impacts of the new development. This document outlines how the Kane County Division of Transportation (KCDOT) calculates the traffic impact and how the impact fee is generated from those data.

The calculation approach used by Kane County, known as the "Facilities-Driven" approach, allocates a percentage of the unfunded capital cost of road improvements needed to serve new development to the developers of that new development on the basis of the traffic generated by the new development.

First, the amount and location of new development of each type (residential, retail, industrial, office, and service) expected to occur over the next ten years was estimated based on census and employment trends and information provided by county and municipal planning departments. The County was then divided into three service areas for the purpose of calculating the impact fees. Using the projected land use information, future traffic volumes were estimated using a traffic model. This data was then used to develop a list of road improvements needed to maintain an acceptable level of service on the Kane County roadway network at the end of the ten-year planning horizon. The cost of those road improvements was then estimated, and existing funding sources identified. The unfunded cost of these improvements was then allocated to the new development based on the number of new peak hour trips generated by the new development to calculate a "cost per trip" factor in each service area.

The gross fee per unit for each land use was then calculated by multiplying the number of new peak hour trips generated by each land use by the cost per trip for that service area. This amount is adjusted by applying applicable credits for demolition of previous structures, and construction of eligible improvements to the highway network. Finally, the net fee is multiplied by an Impact Fee Multiplier determined by the County Board, and, for eligible projects, by an Impact Fee Discount. The resulting impact fee is the amount payable to the County to offset a portion of the capital cost of new and expanded roadways.

The general facilities-driven formula, as described in the Kane County Road Improvement Impact Fee Ordinance, has the following form:

PRIMARY TRIP RATE = GROSS TRIP RATE x TOTAL TRIP REDUCTION

TRIPS = PRIMARY TRIP RATE x NUMBER OF IMPACT UNITS

GROSS FEE = TRIPS x FEE PER TRIP

NET FEE = GROSS FEE minus DEMOLITION CREDIT minus IMPROVEMENT CREDIT

REDUCED FEE = NET FEE x IMPACT FEE MULTIPLIER

DISCOUNTED FEE = REDUCED FEE x (100% minus IMPACT FEE DISCOUNT)

Where:

GROSS TRIP RATE = The number of trips generated by one IMPACT UNIT of the New Development on a weekday during the peak hour, between 4:00 p.m. and 6:00 p.m., of adjacent street traffic (Table A-1).

TOTAL TRIP REDUCTION = The percentage of trips generated by a new development that are pass-by trips and/or diverted-linked trips as defined by the *Trip Generation Handbook* (Institute of Transportation Engineers, 2004) as may be amended from time to time (Table A-1).

PRIMARY TRIP RATE = The portion of the GROSS TRIP RATE that represents new trips on the roadway system, discounting pass-by and diverted-linked trips (Table A-1).

NUMBER OF IMPACT UNITS = A measure of the size of the development that correlates with the number of peak hour trips generated by the development between 4:00 p.m. and 6:00 p.m. For residential developments, the impact unit is the number of dwelling units of various types in the new development. For non-residential developments, the impact unit is generally a multiple of the number of gross interior square feet of the buildings constructed in the new development (Table A-1).

FEE PER TRIP = The GROSS FEE for the Service Area for New Development that generates one trip during the peak hour of adjacent street traffic between 4:00 p.m. and 6:00 p.m. (Table A-2).

DEMOLITION CREDIT = The GROSS FEE that would have been assessed on structures that a fee payer demolishes in conjunction with new development.

IMPROVEMENT CREDIT = The value of impact fee eligible road improvements constructed by a developer in conjunction with new development and pursuant to an Improvement Credit Agreement with the County.

IMPACT FEE MULTIPLIER = The percentage determined by the County Board by which the NET FEE shall be multiplied to determine the REDUCED FEE (Table A-3).

IMPACT FEE DISCOUNT = The percentage determined by the County Engineer by which the REDUCED FEE shall be discounted based on the trip reduction measures included in the new development, as provided for in Section Eighteen of the Kane County Road Improvement Impact Fee Ordinance. Only new developments meeting the specific requirements of Section Eighteen are eligible for this discount. For other projects, the IMPACT FEE DISCOUNT = 0%.

Section 2: Data Required to Determine the Impact Fee

This section describes the data used in each element of the impact fee formula as presented in Section 1, and gives the most up-to-date values employed in the calculation of the impact fees.

2.1 Impact Fee Service Areas

Impact Fee service areas are those areas in the County for which unique fees are calculated. The County assesses and expends the fees collected within a service area. Funds that are collected in one service area, for example, cannot be spent on projects in another service area. The County has been divided into Impact Fee service areas for two primary reasons:

- So that the fees charged are specifically and uniquely attributable to the traffic impact of the new development being assessed the fee.
- To ensure that each fee payer receives a direct and material benefit from the fees paid.

For these reasons, Kane County has been divided into three service areas, North, Central and South, which reflect the predominant travel pattern in the County (Figure A-1).

2.2 Gross Fee

The gross fee calculation is based on a combination of the travel demand of the specific new development (PRIMARY TRIP RATE x NUMBER OF IMPACT UNITS) and the cost of the traffic impacts (FEE PER TRIP).

2.2.1 Travel Demand Elements

Travel demand data provides a direct connection between a new development and the impact fee based on the unique travel characteristics of the new development. Nearly all of the travel demand data utilized by Kane County for the Road Improvement Impact Fee Ordinance is published by the Institute of Transportation Engineers (ITE), an international professional society supporting the traffic and transportation engineering professions.

Impact Units

For the purpose of estimating the number of trips generated by a new development, an impact unit is defined as a physical, measurable and predictable unit describing the study site or trip generator, (e.g., gross floor area, fueling stations, beds, dwelling units). *Trip Generation*, 7th ed. (Institute of Transportation Engineers, 2003), the definitive source of trip generation data in the US, presents, for each land use, the impact unit or units that appear to best correlate with the number of trips generated by a particular land use. The impact units utilized in the Kane County Road Improvement Impact Fee Ordinance, along with the corresponding ITE land use codes, are presented in Table A-1.

Trip Generation Rate

Previous studies have measured trip generation rates for various land uses for selected time periods, including average weekday, morning, and evening peak hours of adjacent street traffic, and peak hour of the day for the particular land use. The trip generation rate for the evening peak hour of adjacent street traffic (commonly taken as the "design hour") is the preferred statistic since roadways and intersections are designed for this level of demand.

In calculating the Impact Fee schedule, trip generation rates for the peak hour of adjacent street traffic were drawn from *Trip Generation*. The average trip generation rate reported in *Trip Generation* was used as the Gross Trip Rate for all but general retail uses and represents the total number of trips generated by a new development per impact unit. For general retail uses, the trip generation rate varies based on the size of the development, so different rates are used for different size retail centers. The gross trip rate used was determined by using the midpoint of the size range and the fitted curve equation reported in *Trip Generation.* The recommended Gross Trip Rates to be used in the impact fee calculation are presented in Table A-1. The applicable ITE land use code for each category is also shown in Table A-1.

Trip Reduction Percentages

The trip generation rates developed for the various land use categories represent vehicles entering and exiting a site at its driveways. There are instances, however, when the total number of trips generated by a site is different from the amount of new traffic added to the highway system adjacent to the new development. For specific types of land use, the ITE breaks down trips into three categories: pass-by trips, diverted-linked trips, and primary trips.

Pass-by trips are made as intermediate stops on the way from the trip origin to the primary trip destination. Such trips may be best described as opportunity trips, such as a motorist stopping at a convenience market on the way home from work. Pass-by trips are not treated as new trips.

Diverted-linked trips are trips that are attracted from the traffic volume on highways within the vicinity of the generator, but that require diversion from that highway to another highway to gain access to the new development site. Diverted-linked trips add traffic to the highways adjacent to the new development site, but may not add traffic to other area highways. For impact fee purposes, these trips are considered to be existing trips, and therefore not treated as new trips.

Primary trips are the remainder of the trips on the highway system. These are trips made with the specific purpose of visiting the new development. The stop at the new development site is the primary reason for the trip. Only primary trips are considered when assessing the impact of a new development on the area highway system.

Table A-1 shows the percentage of the gross trip rate for commercial-retail and some commercial-restaurant and service uses that consists of pass-by and diverted linked trips. These percentages of the gross trip rate, taken from the *Trip Generation Handbook,* 2nd. ed. (Institute of Transportation Engineers, 2004) and adapted for local conditions, have been combined into a trip reduction factor for use in calculating trip generation rates that reflect the pass-by and diversion phenomena. The resulting Primary Trip Rates used in the calculation of the fee tables are shown in Table A-1.

2.2.2 Cost Data

For each new trip on the highway network in a given service area, there is an associated cost for the highway improvements needed on the County Highway system to accommodate that trip. This Cost per Trip is calculated by dividing the unfunded cost of needed highway improvements in each service area by the number of new trips anticipated to be generated within the service area due to new development.

$$\text{Cost per Trip in the Service Area} = \frac{\text{Eligible Project Cost in Service Area}}{\text{Number of New Trips in Service Area}}$$

Total New Trips

In accordance with the Road Improvement Impact Fee Law, Kane County has adopted land use assumptions for the purpose of enacting its Road Improvement Impact Fee Ordinance. Those assumptions identify the location and land use of anticipated new development in Kane County over a ten year period. For each service area:

$$\text{Number of New Trips} = \sum_{\text{LandUses}} (\text{Amount of New Development} \times \text{Trip Generation Rate})$$

Based on the adopted Land Use Assumptions, the County has determined the total number of new trips expected to be generated in each service area as provided in Table A-2.

Eligible Project Costs

Using the Land Use Assumptions and the County's traffic planning model, the County has developed a Comprehensive Road Improvement Plan which identifies highway improvements needed to accommodate new development. The cost of those projects, including engineering, land acquisition and construction, was then estimated to determine a total improvement "need." Projects needed to correct deficiencies in the highway network that existed as of 2002 (the year the initial studies were performed for the County's impact fee program) are not eligible for impact fee funding and are therefore excluded from the "need" calculation. The "need" is further reduced by highway funding that is available from other sources, including federal and state funds and new tax revenues generated by new development. For each service area:

$$\text{Eligible Project Cost} = \sum_{\text{Projects}} (\text{Total Project Cost - Non Impact Fee Funding})$$

Based on these calculations, the County has determined the total eligible cost of impact fee projects in the County in each service area as provided in Table A-2.

2.3 Demolition Credits

Developers of new development who demolish existing buildings in conjunction with their new development have a lower net traffic impact than developers who build on vacant land. In order to ensure that each new development is assessed a fee only on the net impact of the new development, Section Thirteen of the Road Improvement Impact Fee Ordinance provides for demolition credits. A demolition credit is calculated by determining the impact fee that would have been due for the building that was demolished. Only buildings that housed traffic-generating land uses are eligible for demolition credits.

2.4 Improvement Credits

Developers who construct eligible highway improvements in conjunction with new development may receive credit against impact fees due from that new development. As provided in Section Twelve of the Road Improvement Impact Fee Ordinance, eligible highway improvement expenditures may include engineering, land acquisition and construction costs for projects specifically listed in the Comprehensive Road Improvement Plan, but do not include improvements needed for safe and efficient access to the new development site. Because each situation is unique, improvement credits are always subject to a specific written agreement between the developer and the County.

In accordance with the Kane County Road Improvement Impact Fee Ordinance, the County Engineer shall make the final determination as to which road improvements are eligible to receive improvement credits.

2.5 Impact Fee Discount Program

As a means of encouraging new development that meets specific goals of the Kane County 2030 Land Resource Management Plan, developers of new development who include specific trip reduction measures in their developments may be eligible for an impact fee discount of up to 70% based on provisions of Section Eighteen of the Kane County Road Improvement Impact Fee Ordinance. Factors considered in determining eligibility and the size of the discount include availability of public transit, proximity of mixed land uses, density and walkability. Specific requirements are provided in the ordinance.

Figure A-1: Impact Fee Service Areas

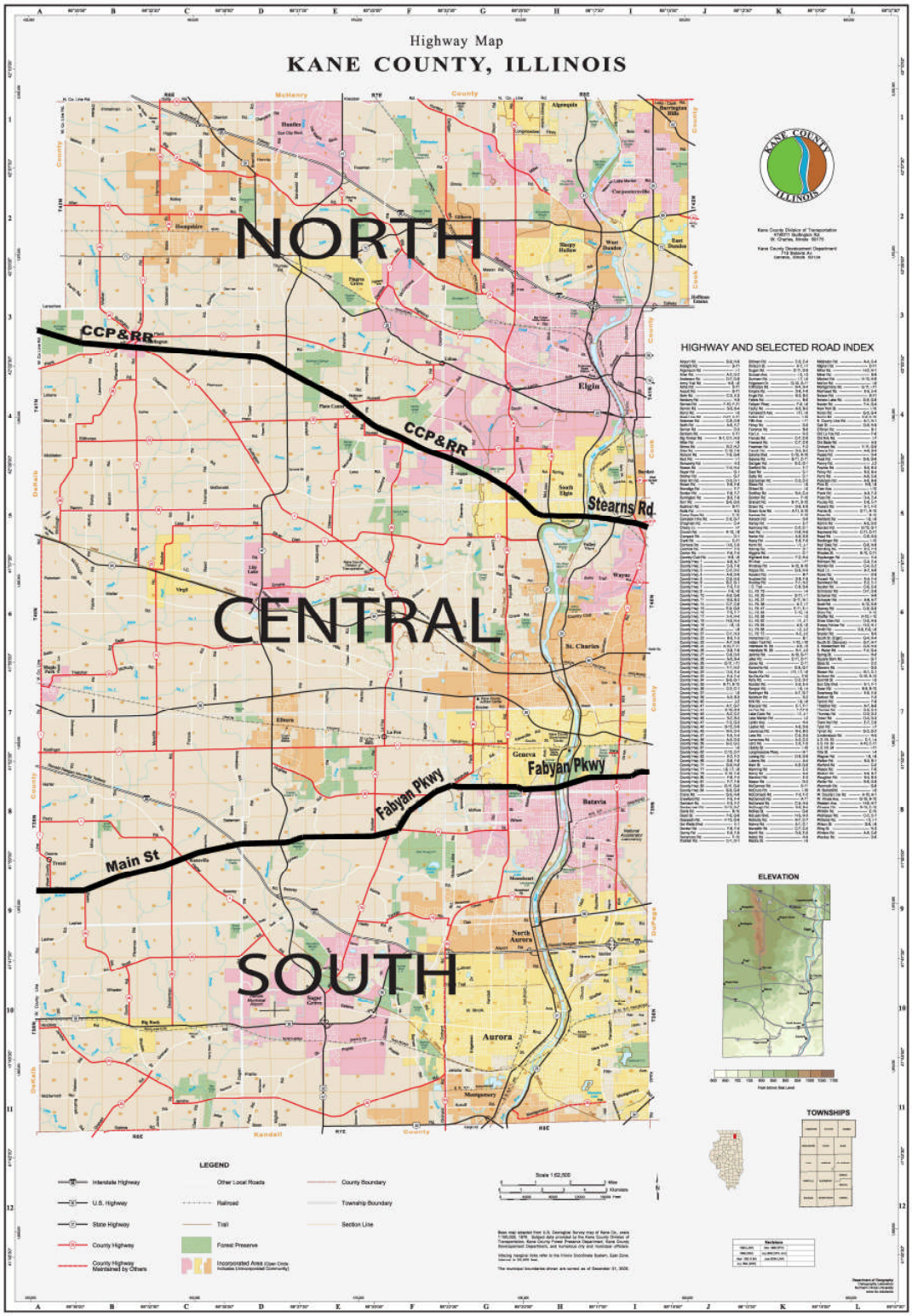

Table A-1: Trip Generation Rates by Land Use

Land Use	ITE Code	Impact Unit	Gross Trip Rate	Diverted / Linked Trips	Pass-by Trips	Total Trip Reduction	Primary Trip Rate
Single Family Detached	210	Dwelling Unit	1.01				1.01
Single Family Attached	230	Dwelling Unit	0.78				0.78
Multi Family Attached	220	Dwelling Unit	0.62				0.62
Retail 1 - 50,000 sf	820	1,000 sf	10.03	26%	58%	84%	1.60
Retail 50,000 - 300,000 sf	820	1,000 sf	5.18	26%	29%	55%	2.33
Retail 300,000 - 1,000,000 sf	820	1,000 sf	3.31	26%	23%	49%	1.69
Retail over 1,000,000 sf	820	1,000 sf	2.56	26%	19%	45%	1.41
Supermarket	850	1,000 sf	10.45	45%	25%	70%	3.14
Convenience Market	851	1,000 sf	52.41	15%	70%	85%	7.86
Service Station	844	Fueling Position	13.86	25%	60%	85%	2.08
General Office	710	1,000 sf	1.49				1.49
Medical-Dental Office	720	1,000 sf	3.72				3.72
Office Park	750	1,000 sf	1.50				1.50
Business Park	770	1,000 sf	1.29				1.29
Warehousing/Distributio n Terminal	150	1,000 sf	0.59				0.59
Light Industrial/Industrial Park	110	1,000 sf	0.92				0.92
Fast Food Restaurant	834	1,000 sf	34.64	40%	50%	90%	3.46
Other Restaurant	831	1,000 sf	7.49	30%	45%	75%	1.87
Day Care	565	1,000 sf	13.18	90%		90%	1.32
Hospital	610	Bed	1.30				1.30
Nursing Home	620	Bed	0.22				0.22
Hotel/Motel	320	Room	0.47				0.47
Religious Institution*	560	1,000 sf	0.66				0.66

Table A-2: Trip and Cost Data by Service Area

	North Service Area	Central Service Area	South Service Area
Total New Trips	104,278	35,357	54,802
Eligible Project Cost	$512,400,000	$168,900,000	$257,800,000
Fee per Trip	$4,914	$4,777	$4,704

Table A-3: Impact Fee Multiplier

Applicable Dates	Impact Fee Multiplier
Through June 30, 2008	32%
July 1, 2008 through June 30, 2009	40%
July 1, 2009 through June 30, 2010	48%
July 1, 2010 through June 30, 2011	56%
Beginning July 1, 2011	64%