



CIVIL ENGINEERING STUDIES
Illinois Center for Transportation Series No. 08-018
UIIU-ENG-2008-2005
ISSN: 0197-9191

TRUCKERS' PARK/REST FACILITY STUDY

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Research Report FHWA-ICT-08-018

A report of the findings of

ICT-R27-16

Truckers' Park/Rest Facility Study

Illinois Center for Transportation

July 2008

1. Report No. FHWA-ICT-08-018	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Truckers' Parking/Rest Facility Study		5. Report Date July 2008	
		6. Performing Organization Code	
7. Author(s) Peter Beltemacchi, Laurence Rohter, Jac Selinsky, Terry Manning		8. Performing Organization Report No. FHWA-ICT-08-018 UILU-ENG-2008-2005	
9. Performing Organization Name and Address College of Architecture Illinois Institute of Technology 3360 S. State St. Chicago, Illinois 60616		10. Work Unit (TRAIS)	
		11. Contract or Grant No. ICT-R27-16	
		13. Type of Report and Period Covered Final Report	
12. Sponsoring Agency Name and Address Illinois Department of Transportation Bureau of Materials and Physical Research 126 East Ash Street Springfield, IL 62704-4766		14. Sponsoring Agency Code	
15. Supplementary Notes Study was conducted in cooperation with the U.S. Department of Transportation, Federal Highway Administration.			
16. Abstract This study examined the current state of truck parking and rest area facilities in the Northeast Illinois Region to determine if and how problems from truck parking affect freight transportation infrastructure, safety, and the region's economy and environment. A taxonomic study of truck traffic volume and truck parking availability was completed. Truck parking sites for this report comprise private and public sites. Interviews were conducted with state, county, municipal authorities, and truck drivers. The primary problems found involved two groups of truckers. One group is the independent, over-the-road drivers with Chicagoland deliveries and pickups. This group has fewer resources available for securing parking when needed. These truckers are responsible for much of the 'nuisance' parking in residential, retail, or manufacturing areas. The second group contributing to nuisance parking is local company drivers who park in areas designed for over-the-road truckers and access ramps. The consequences of nuisance parking include safety hazards, problematic environmental effects from emissions and toxins, and a diminished freight transportation system affecting the local economy. Recommendations are given. Solutions include: improving parking sites by creating additional parking for the drivers needing it; and re-using brownfield sites, underutilized retail and manufacturing parking areas, and seasonally affected sites to create additional parking. Communication of site availability via radio or other means is also proposed. Since the impacts and needs are diffused over the region, further study of both procedural, such as the development of design guides, and programmatic private and public solutions are proposed.			
17. Key Words freight, commerce, truck parking, truckers, rest, trucking, Northeast Illinois. truck parking, taxonomic, gis, video survey, inventory, chicagoland		18. Distribution Statement No restrictions. This document is available to the public through the National Technical Information Service, Springfield, Virginia 22161.	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages	22. Price

Acknowledgment, Disclaimer, Manufacturers' Names

This publication is based on the results of ICT-R27-16, **Truck Parking/Rest Facilities Design Study**. ICT-R27-16 was conducted by the Illinois Institute of Technology in cooperation with the Illinois Center for Transportation; the Illinois Department of Transportation; and the U.S. Department of Transportation, Federal Highway Administration.

Members of the Technical Review Panel are the following:

Chuck Abraham (chair), State of Illinois DOT

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The research team acknowledges the financial support provided by the Illinois Center for Transportation under grant number ICT R27-16. The research team also wishes to express its sincere appreciation and gratitude for the chair of the Technical Review Panel (TRP) Chuck Abraham and its members for their valuable advice, constructive feedback, and guidance throughout all phases of this project.

Finally, the members of the research team wish to thank their associate consultants and contributors for all their assistance, Libby Ogard of Prime Focus(LLC), Janina Samuels, Bruce Dahnke, Gerald Rawling, Ron Nordmeyer and Terry Manning.

Full size copies of the illustrations in 11x17 size are contained in Appendix A, and may be obtained from the authors.

Executive Summary

This study examines the current state of truck parking and rest area facilities in the greater Chicago metropolitan area to determine if and how truck parking problems affect the region's freight transportation infrastructure, safety, economy, and environment. The greater Chicago metropolitan area is defined here as the following Northern Illinois Counties: Boone, Cook, DuPage, Grundy, Kane, Kankakee, Kendall, Lake, McHenry, and Will.

To analyze this issue, the research team interviewed truck drivers as well as state, county, and municipal authorities and completed a taxonomic study of truck traffic volume and truck parking availability at publicly and privately owned sites.

The research team found truck parking problems, primarily involving local company drivers and independent, over-the-road drivers making Chicagoland deliveries and pickups. The local company drivers have been parking in rest areas designed for over-the-road truckers and on highway access ramps. The independent over-the-road drivers, however, have few resources available for securing parking when needed and have been largely responsible for "nuisance" parking in residential, retail, or manufacturing areas. These parking problems create safety hazards, harmful emissions and toxins, and a diminished freight transportation system that adversely affects the economy.

The research team, therefore, recommends creating additional parking at existing truck parking sites; reusing brownfield sites; and using underutilized retail, manufacturing, and seasonally affected sites for additional truck parking. The research team also suggests communicating truck parking availability via radio or other means. Since these impacts and needs differ across the region, the research team proposes further study of procedural and programmatic private and public sector solutions, including development of truck parking design guidelines.

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APPENDIX B: FORMAL TRUCK PARKING SPREADSHEET

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Figures 1 & 2. Study Area & Multi-Unit Traffic Volume shows map of roadways with multi-unit volume of greater than 1. We used GIS to obtain data for this figure.

Figures 3 & 4. Truck Parking Supply shows map with locations of truck parking lots in study area and graph of range of parking lots sizes recorded for this study. We used GIS to obtain data for this figure.

Figures 5, 6, & 7. Interview Process Diagrams shows three diagrams illustrating the interview processes for learning the extent and range of problem parking as expressed by different authorities responsible for enforcing various truck parking laws. Problem parking is shown according to the source citing the information: Non-municipal (sheriffs), Municipal (local police), and Highway (State Police). The non-municipal and highway diagrams, in particular, illustrate the majority of the problem parking occurs south and southwest of Chicago.

Figure 8. Interview Spreadsheet shows a breakdown of all interviews attempted or conducted with state police, sheriffs, city officials, and local police according to county.

Figure 9. Hinsdale Oasis Case Study shows the data collected from observing overnight usage by truckers of a typical Chicago area toll road oasis, the Hinsdale Oasis, in Hinsdale, Illinois. Data were collected on two Tuesday nights, on July 24, and September 11, 2007. We attempted to learn how many trucks parked in the oasis, for how long, and where in the oasis, including the on and off ramps. We used video, global positioning system (GPS), and GIS to obtain data for this figure

Figures 10 & 11. Truck Parking/Multi-Unit Analysis shows two diagrams illustrating the relationship between Chicago area truck traffic and parking supply using a 15,000 foot buffer on the left and a 30,000 foot buffer on the right. We used GIS to obtain data for this figure. The next step was to geospatially compare these different facts. The roads on the map are divided into segments approximately a quarter of a mile long. Using fifteen and thirty-thousand foot radius buffer zones from each parking location, it's clear to see that in the southern half of the region and in Lake County, IL the proportion of truck parking to traffic volume is above average. From this it would seem that those areas are where truck parking on highway ramps would be lowest, however, as the interviews will show those areas have the most truck parking because they have the highest demand, and in reality are probably the most underserved.

Figure 12. Dimensions and Radii shows dimensions of a typical truck driven by independent operators discussed in this study. These dimensions and the truck's turning radius should be addressed in the site construction and design guide, one of the recommendations in this study. Also shown is a sample truck parking lot design.

Figure 13. Pavement Design shows charts and drawings illustrating the ideal pavement standards based on loads and traffic volumes. Iowa DOT provides this information via the internet.

Figure 14. Curb Design shows two drawings illustrating basic curb design. Iowa DOT provides this information via the internet.

Figure 15. U.S. Cellular/the new Comiskey Park shows a proposed design for 97 spaces of overnight truck parking using one of U.S. Cellular Field's existing parking lots. This lot could accommodate 131 single trailer trucks or 63 single trailer trucks and 34 double trailers trucks. This proposal recommends that rather than building additional parking areas, facilities that already exist can be used for truck parking during off-hours. In this scheme the lot is accessible to both North and Southbound routes via the 35th Street exits on I94. Nearby restaurants and convenience stores are available for services. This scheme requires minimal construction and operation expense.

Figure 16. Pershing Road/39th Street shows an 18 space design possibility for an abandoned lot at the corner of Halsted and 39th Streets. Probably once the site of a gas station, this site should already have soil conditions favorable to heavy loads. If the soil is already contaminated, this is a viable use for such a site, and the soil could be remediated while used for parking. This layout design provides parking for the 39th Street corridor. If desired, there is space for a restaurant or convenience store with parking for cars.

Figure 17. Casino shows a 150 space design that uses existing surplus parking area at a casino in Gary, Indiana. This solution is practical because it uses existing facilities, provides truckers with all their needs, and produces a product based income for the owner, rather than simply charging parking fees.

CHAPTER 1 OVERVIEW

In this study, the research team assessed the need for truck parking and rest area facilities in Northern Illinois. After learning about this area's truck parking problems, the research team created a regional truck parking program design for review and consideration in this report.

1.1 OVERVIEW—PREVIOUS RESEARCH (INVENTORY OF EXISTING TRUCK PARKING SUPPLY)

In May 2000, the National Transportation Safety Board completed a report, which incorporated a 1999 American Trucking Association survey and a 1999 Owner-Operator Independent Drivers Association membership survey. This report stated that independent over-the-road truckers and company drivers have difficulty finding parking spaces at public rest areas at least once a week. The United States Federal Highway Administration (FHWA) therefore released a technical report in 2002, which examined the adequacy of commercial truck parking facilities and presented a model for estimating truck parking demand at rest areas and privately-owned commercial truck stops. It showed lower estimated annual increases in truck parking demand for Illinois than for Indiana and Wisconsin because of fewer truckers and fewer originating or terminating shipments in Illinois. Indiana posted estimated annual increases in demand, which roughly equaled the GDP growth rate, while Wisconsin was up significantly because of regional trade between Minneapolis, Milwaukee, and Chicago. (Please see Tables 1 and 2.)

Table 1. Results of FHWA Report Inventory

Public Rest Areas with Full or Overflowing Nighttime Parking	80%
Shortfall of Truck Parking Spaces	28,400 (estimated)
Parking Spaces at Private Truck Stops	185,000 (estimated)
Number of Trucks Parked at Private Truck Stops at Night	167,453 (estimated)
Private Truck Stops that are Full on Any Given Night Nationwide	53%
Private Truck Stop Parking Spaces to be Added by the End of 2000*	20,000-38,000
Cost of Building Additional Parking to Meet Future Trucking Demands	\$489,000,000-\$629,000,000

*According to the National Association of Truck Stop Operators' Vice President for Government Affairs, these additional spaces will be completed, as projected.

Table 2. Truck Parking Demand in Illinois, Indiana, and Wisconsin

State	Public Rest Area Demand	Truck Stop Demand	Total Demand	Estimated Annual Increase in Demand
Illinois	3,338	11,172	14,510	1.1%
Indiana	4,299	14,400	18,699	3.0%
Wisconsin	633	2,115	2,748	4.2%

The tables below show the number of public and private truck parking facilities and the estimated number of total parking spaces available in Illinois, Indiana, and Wisconsin, according to the FHWA technical report.

The Department of Transportation for each of the above states builds and maintains public rest areas on interstate highways. States can use interstate maintenance funds for reconstruction, rehabilitation, restoration, and resurfacing of highway rest areas, but cannot use them for the rest areas' daily maintenance and upkeep. Given traffic growth and other priorities within these states, it is often hard for these states to get rest area construction or restoration done.

Public rest areas are typically designed to accommodate motorists and commercial truckers. These facilities offer parking, rest rooms, and vending machines, but no commercial services. Public rest areas are intended to provide parking for up to three hours per visit, although the rest area rules vary by state. Law enforcement of these time limits varies according to parking space demand.

In some states, public weigh stations have been identified for overflow parking. Typically, there are no public restrooms available when these weigh stations are closed. Only Indiana has allowed truck parking at weigh stations out of the three states mentioned in this study during the time of the report. However, more states are allowing truck parking at weigh stations and ports of entry now, although truckers have not widely used these facilities since they are usually far from their destinations. (Please see, Table 3.)

Table 3. Truck Parking Supply in Illinois, Indiana, and Wisconsin

State	Public Rest Area Parking Facilities	Parking Spaces	Weigh Station Truck Parking	Imposed Time Limits
Illinois	54	1,267		
Indiana	52	2,430	X	
Wisconsin	23	652		

Commercial truck stops and plazas offer a variety of services which include fuel, food, showers, and other trucking services. These facilities are typically open 24 hours per day, seven days a week. Some of these sites offer minor maintenance and truck scales. These services vary by location.

Commercial truck stops typically do not charge for overnight parking. Their business models focus instead on the sale of fuel, food, and driver support services. Recently, however, some truck stops started charging for plug-ins, which reduce engine emissions and help truckers reduce fuel costs. These commercial truck stops provide most of the truck parking spaces in Illinois, Indiana, and Wisconsin. (Please see Table 4.)

Table 4. Number of Commercial Truck Stops, Plaza Facilities, and Parking Spaces

State	Number of Commercial Truck Stops and Plaza Facilities	Parking Spaces
Illinois	122	4,962-9,602
Indiana	119	7,972-14,529
Wisconsin	80	2,863-5,971

In 2003, the Transportation Research Board published a report designed to help state transit agency administrators identify those practices that have been used to manage increasing truck parking demand. This report looks at this issue for Northern Illinois.

1.2 OVERVIEW STUDY SCOPE

The research team examined truck parking and rest areas in the greater Chicago metropolitan area, which includes Boone, Cook, DuPage, Grundy, Kane, Kankakee, Kendall, Lake, McHenry, and Will Counties in Northern Illinois. The research team gave special attention to several municipalities and roadways with average daily truck volumes that are greater than one, according to IDOT's most recent Annual Average Daily Traffic statistics (2003). Please see Figure 2.

1.3 OVERVIEW TAXONOMY (TRUCKING INDUSTRY SEGMENTS)

The trucking industry is as diverse as the cargo it hauls. In fact, many segments of this industry are defined by the trailer used or type of freight handled. The following list shows the types of trucking activities that help define the industry.

Agriculture	Heavy Specialized	Auto Hauler
Bulk	Intermodal	Waste
Dump	International	Courier
Forest	Livestock	Household Movers
GFLTL	Tank Truck	Private Fleet
GFTL	Hazardous Material	Specialized Cargo
H Duty Tow	Refrigerated	Team Drivers

The American Trucking Association has compiled statistics on trucking activities by driver type and operating characteristics. The following list defines each of the driver types that the American Trucking Association uses:

- Truckload drivers refer to a combination of owner-operators and company fleet drivers who run locally, regionally, and/or internationally. Many of these drivers pick-up freight from one owner and deliver it to its purchaser and therefore run irregular routes. Some of these drivers operate on teams, while others share tractors.
- Less Than Truckload drivers predominantly provide regional, expedited delivery of small packages or small quantities of freight. Their shipments are consolidated at terminals loaded on trucks bound for other areas of the region. At the destination terminals, the trucks are unloaded and the packages are distributed. These drivers typically run fixed routes and have a predictable schedule. Some drivers are union, some are independent.
- Private truck drivers are typically contract drivers who run fixed routes within a network of locations typically owned by a single entity within a fixed distribution network.

Truckload is the largest segment of the trucking industry as measured by tonnage and is expected to grow 2.5% per year on average over the next ten years. The less than truckload segment is the fastest growing segment, although it moves the least tonnage of the three types of trucking fleets. The private truck segment has grown substantially in the

past two years in response to recent hours of service legislation. Private fleet operations typically take service variability out of the supply chain by engineering multi-stop pick-up and delivery loads.

Another category of drivers in the Chicago area are railroad drayage drivers. These drivers are independent contractors who pick-up and deliver loads and empties which arrive and depart the region by train. The typical drayage driver is based in Chicago and performs local pick-up and delivery work. These drivers are generally home every night and do not typically use public rest areas. Approximately, 17,000-20,000 trips per day are cross-town trucking movements. (Please see Table 5.)

Table 5. Truck Volume Forecast for For-Hire and Private Motor Carriers

	Volume (Millions of Tons)			Average Annual Growth Rate (%)		
	2005	2011	2017	2006-11	2011-17	2006-17
Total	10,693	12,397	14,027	2.7	2.2	2.4
General Freight	4,903	5,745	6,665	2.9	2.7	2.8
Bulk Freight	5,790	6,652	7,362	2.5	1.8	2.1
Truckload	5,355	6,221	7,084	2.7	2.3	2.4
General Freight	2,499	2,918	3,395	2.8	2.7	2.8
Bulk Freight	2,856	3,304	3,689	2.6	1.9	2.3
Less Than Load	151	183	214	3.5	2.9	3.2
General Freight	135	165	195	3.7	3.0	3.3
Bulk Freight	15	18	20	2.2	2.1	2.1
Private Truck	5,188	5,993	6,729	2.6	2.0	2.3
General Freight	2,269	2,662	3,076	2.9	2.6	2.7
Bulk Freight	2,919	3,331	3,653	2.4	1.6	2.0

Source: American Trucking Association

1.3.1 Company Facilities and Contract Provisions

Many large fleet owners like J.B. Hunt, Schneider, and Swift have operating centers strategically located across their primary service areas. One large company based in the upper Midwest has operating centers in Indianapolis, Gary, Milwaukee, Green Bay, and Des Moines, but not in Chicago. These operating centers provide drivers with a place to rest, shower, launder their clothes, eat, fuel, and perform minor maintenance and repairs.

Some smaller trucking companies provide their drivers with contract services at designated rest areas or franchises. Several companies interviewed had such a relationship with Pilot Truck Stop Centers. Pilot has three different customer loyalty programs that reward drivers and/or trucking companies for repeat visits.

Less than load companies typically take care of fuel and services at the terminals where freight is picked-up or delivered. Sometimes contract services are provided at close by facilities, if there is not enough space to support these services on site.

Private fleet drivers may be employed by the large fleet owners or might work for the contracting companies directly. The private fleet owner often contracts services for these drivers.

Independent owner-operators make up the largest number of long haul over-the-road drivers. These drivers accept loads from brokers and logistics companies and choose their own routes or truck stops.

CHAPTER 2 RESEARCH METHODS

2.1 RESEARCH METHODS—PARKING SUPPLY-SPATIAL

The research team used a geographic information system (GIS) to inventory truck traffic volumes and available parking within the study area. GIS allows data to be compared spatially. Information is visualized in map form. Embedded within each drawing or “shape” are sets of information that can be viewed in spreadsheets. When multiple data sets or “shapes” are imported into a single file, comparisons can be automatically calculated based on their spatial relationships.

Using GIS, the research team created inventories of truck parking supply and saw where traffic volumes were particularly high, giving an idea of demand. These inventories were created by combining IDOT’s annual average daily traffic (AADT) data in GIS format with information translated from truckers’ guides and satellite photography. The greatest supply of truck parking and the highest truck traffic volumes were in the southern half of the study area and around the Wisconsin and Indiana interstate entrances. (Please see, Figure 3.) These areas also had the most illegal truck parking complaints.

Figure 4 categorizes parking lot sizes. The research team inventoried 8,495 truck parking spaces, including facilities in Wisconsin and Indiana. These sites comprise “formal truck parking.”

2.2 RESEARCH METHODS—INTERVIEWS

To actually locate truck parking problems in the greater Chicago metropolitan area, the research team extensively interviewed local and state police, sheriffs, and city officials. They interviewed local police and city officials to identify trends and problem areas within municipalities and to learn how they deal with truck parking. Sheriffs were interviewed to find out about trucking problems and patterns that they saw within the study area’s unincorporated areas. Moreover, the research team interviewed the state police to find problem areas on highways as well as truckers’ habits on these roads and the risks of them doing so. The results of these interviews are shown in Figures 5, 6, and 7. The municipalities were randomly selected from a group of major municipalities that lie along roadways with average daily truck traffic volumes greater than one; other non-major municipalities were added because they had serious truck parking problems. Figure 8 shows a breakdown of the research team’s interviews, including interviews with truckers.

2.3 RESEARCH METHODS—DIRECT OBSERVATION OF OVERNIGHT TRUCK PARKING

Figure 9 presents a case study of overnight truck parking at the Hinsdale Oasis, which involved video, GIS, and GPS technologies. These technologies show truck parking beyond the two hour posted time limit and the predominance of independent over-the-road truckers’ use of the oasis and occasional use of ramp approaches.

The asymmetry of northbound and southbound occupancy indicates consistent local supply and demand issues. More northbound truckers are at the Hinsdale Oasis. They look to rest at the oasis after leaving construction zones and heavy traffic further south and know that less formal trucking services are further north.

CHAPTER 3 FINDINGS FROM THE DATA

The research team found that areas directly south and southwest of Chicago generally have had the most truck parking problems, likely given Chicago's and this area's direct access and proximity to other major cities and manufacturing centers. Generally, state and local police expressed the most complaints, indicating that these problems are likely within municipalities and along limited-access highways.

Specifically, the research team observed that truck traffic volume is highest in the southern half of Cook County, Grundy County, Lake County, and Will County in Illinois. However, state and local police had not received any illegal truck parking complaints in Lake County, Illinois, which may indicate that most of its residents do not view the scale and type of freight being moved through this county as a nuisance.

The research team also observed that truck parking is mostly available in the aforementioned counties as well as Lake County, Indiana and Kenosha County, Wisconsin. While these latter areas are outside of the study area, they significantly impact truck parking within the greater Chicago metropolitan area. Figures 10 and 11 show how truck parking within or near the study area is more prevalent on heavily traveled truck routes.

Results from local government interviews ranged from serious complaints to disinterest. This reflects local interests and situations.

The research team also asked state troopers and county sheriffs whether truck parking was a frequent problem within their districts and where, if any, illegal truck parking was specifically happening. The team also asked about truck parking patterns and safety issues in undesignated areas on limited access highways. These interviews showed that truck parking problems primarily occur in the southern half of Cook County and in Grundy, Kankakee, and Will Counties. The state troopers and county sheriffs stated that undesignated truck parking occurs exclusively on access ramps, rather than on shoulders, particularly those that are less busy and wide enough to "safely" park. These state troopers and county sheriffs believe that truckers tend to be fairly conscious of safety risks where they park.

The state troopers reported that truck parking on highway ramps usually occurs for several hours overnight. They believe that these truckers are resting in compliance with hours of service (HOS) rules. However, without an adequate supply of parking spaces, these truckers are forced to park on access ramps instead of parking lots. Some troopers reported that they were hesitant to ticket or force truckers to move since they understand the limited options truckers face and are reluctant to send fatigued truckers back on the road. The interviewee from IDOT's District 5, however, expressed very serious safety concerns about truck parking on shoulders. This District has the most truck parking problems within the study area.

These interviews provided an abstract picture of the study area's truck parking problems on highways as well as several specific locations. However, it is hard to say exactly how comprehensive or stable over time these findings are and whether the research team has potentially overlooked other serious problem areas.

To try to rectify this situation, the research team interviewed county sheriffs from each county in the study area. Since sheriffs only patrol and respond to complaints from unincorporated areas, almost none of them had any truck parking complaints except for occasional residential owner-operators parking their trucks on county roads near their homes or subdivisions. These interviews essentially centered more on what truck-parking isn't, rather than what it is. From these interviews, the research team has assumed that truck parking is generally not a problem in unincorporated or rural areas.

Temporally, the Hinsdale Oasis direct observation study showed that most truckers stop fairly early to comply with hours of service rules and resume operations fairly early to avoid congestion.

The research team interviewed more than ten truckers from less than load, bulk holder, and mail hauler companies. Because of time constraints, these truckers individually responded to selected topics. The following comments reflect what these truckers, know, think, and want:

Truck Types:

- Larger companies, such as UPS, Yellow, and Roadway have thousands of trucks which increase the average.
- Most companies are “ma and pa” and have one or two trucks. It costs \$5,000 to insure each truck per year.

Regulating Driving Hours:

- Log books regulate the hours.
- If log books are found to be wrong, a trucker can be fined \$400 and may face up to 90 days in jail.
- Some trucks use a satellite system in which truckers sometimes put a cone of foil to distort the signal.
- If truckers did not block the signal, their trucks would shut down when the 11 hours were up, which is “dangerous and rude.”

Scheduling:

- City shipment and load pick-up drivers tend to avoid the rush periods.
- These truckers come in early (6:00 AM) and sit until pick-up time or arrive after the morning rush is over (10:00 AM).
- Some companies, such as large retailers, have a first-come, first-serve policy, which results in drivers arriving early.

Locations:

- The drivers from Chicago tend to rent parking spots.
- Those who are not from the greater Chicago metropolitan area tend to have a difficult time finding places to park.
- Truckers will park on Chicago’s outskirts, primarily for safety.

Facts:

- Truckers need to keep track of how many miles they travel through a state. They need to buy the amount of gas it takes to travel through the state in order to pay off their road tax.
- The average truck weight is 46,000 lbs and the gross weight is 80,000 lbs.

Other:

- Truck parking places in Chicago need to be close to distributors and manufacturers since truckers like to park near their destinations.
- Many manufacturers and distributors are on the west side of 47th Street and Kedzie, around Fulton Market, and along I-90 coming into Chicago.
- Many places do not want trucks after 7 PM because of the use and sound of compression brakes.
- Basic facilities should include bathrooms, plug-ins, lighting, grills, concrete pavement, and some form of security for truckers.

In summary, drivers choose their parking and rest facilities based on three important factors:

- Delivery pick-up and drop-off times
- Traffic locations
- Log book requirements

CHAPTER 4 FINDINGS

4.1 FINDINGS—PROVISION FOR FUTURE TRUCK PARKING SUPPLY

In 1999, the Federal Highway Administration hosted a Rest Area Forum to identify issues and solutions for providing safe and adequate parking for commercial truck drivers and their vehicles. This forum included state transportation officials, law enforcement officers, motor carrier representatives, private truck stop operators, commercial drivers, and safety advocates. Six recommendations resulted from the forum, which are the following:

- Improve safety and security at public rest areas
- Encourage private enterprise to increase truck parking through the use of public-private partnerships, tax incentives, and low-interest loans
- Encourage shippers and receivers to provide parking in urban areas
- Create alternative parking sites to address immediate issues
- Provide uniform spacing to improve public rest and truck parking areas
- Increase public rest area construction, modernization, and expansion with support from Federal, State, and discretionary funds.

To supplement these findings, this research team followed up with thirteen national public and private stakeholder groups to determine their views and solutions to truck parking problems:

“As outlined in this list, a variety of positions were proposed, including expanding public parking, changing regulations and financing, and increasing the number of commercial truck stop and travel plaza spaces:

- Advocates for Auto and Highway Safety. Expansion of commercial facilities represents the best solution to the truck parking problem.
- America’s Road Team (ART). ART supports 1) increased state and federal funding for public rest stop spaces and 2) encourages the use of existing facilities, such as weigh stations and park-and-ride lots, for parking, where possible.
- American Trucking Association (ATA) Foundation. ATA believes that DOT should lead a concerted effort to fund the construction of additional truck parking using existing funding sources. DOT should also explore technology for improving the efficiency of existing resources. ATA does not advocate one method of eliminating the shortfall over another. Instead, ATA wants organizations and agencies to do everything possible to improve the availability of parking spaces at both public and commercial facilities for truck drivers.
- Commercial Vehicle Safety Alliance (CVSA). CVSA has been active on this issue for two years. CVSA believes that there is a shortage of parking spaces and that the next reauthorization should include a Federal mandate to use highway funds to construct rest stop facilities if a need is demonstrated and proven. CVSA believes the permissive language on this issue is not strong enough and that a formal mandate is needed. A federal mandate and funding for building new or additional

parking facilities would be the most effective means of addressing the problem. Additional short-term solutions include the following:

- Change state policies that restrict the amount of time truckers may stay in public rest areas.
 - Use inspection and weigh station facilities during off-hours to provide additional parking.
 - Use satellite parking to provide additional parking spaces.
 - Communicate information on space availability and facility locations to drivers. [Maryland is currently doing this through variable message signs (VMSs), the Web, and brochures.]
- Motor Freight Carriers Association (MFCA). MFCA stands behind the results of the ATA Foundation rest area/truck stop study, “Making Space for Safety,” as far as the truck parking shortage is concerned. They report, “while our segment of the industry does not use public rest areas or commercial truck stops and travel plazas for long-term parking, we do believe that more can be done to encourage public/private partnerships to help solve the parking shortage.”
 - NATSO, Inc., the Association representing America’s Travel Plazas and Truck Stops. NATSO believes that the commercial truck stop industry has in the past adequately met the needs of the professional driver and will do so in the future. NATSO believes professional trucking companies and drivers should bear the responsibility of finding safe, legal places to store their equipment. In that regard, NATSO recommends the following:
 - Increase yearly truck registration fees with the stipulation that these special funds can be used by states only on initiatives to address the truck parking issue.
 - Implement a program that allows states to close rest areas in locations that are well served by private-sector businesses and shift funds to areas in which additional development is desirable.
 - Remove cost-prohibitive road improvement requirements imposed by state DOTs upon developers attempting to open new facilities.
 - Owner-Operator Independent Driver Association (OOIDA). OOIDA feels this is a problem so important to the industry that meaningful solutions will be found only through cooperation among all the stakeholders. Actions that OOIDA believes would be beneficial include the following:
 - Build more and bigger public rest areas.
 - Provide designated “trucks only” public rest areas.
 - Increase the number of overall spaces.
 - Accommodate longer (e.g., 53-ft) trailers.
 - Stop closing existing public rest areas.

- Parents Against Tired Truckers (PATT). PATT believes that a federal mandate and funding for building new or additional parking facilities would be the most effective means of addressing the problem. Additional solutions include the following:
 - Provide low-interest loans for developing truck parking facilities (absent direct funding or as a supplement).
 - Explore public-private partnerships for developing additional rest facilities. An example would be a “super lot” in which a vendor or contractor would develop a facility on a state-provided land. Another example would be to have highway contractors who are working in an area in which a truck rest stop is located be available to help build additional parking spaces at that rest stop.
 - Review individual state policies that restrict the amount of time truckers may stay in public rest areas.
- Petroleum Marketers Association of America (PMAA). PMAA feels that ensuring that drivers get adequate sleep is the responsibility of the companies that use their services and that the best way to address parking shortages is for the trucking industry to seek out alternative solutions. For example, setting schedules so that drivers do not necessarily arrive in congested areas during peak times would help reduce overcrowding in some locations. The trucking industry could develop consortia to locate available parking areas in which inadequate parking currently exists, and large carriers could seek out parking areas within reasonable distances of thruways and contract for parking at those facilities. Trucking companies could also work with their customers, shippers, and receivers to allow trucks to park at their facilities.
- Four other stakeholders [American Automobile Association, International Association of Chiefs of Police, National Industrial Transportation League (NITL), and National Private Truck Council (NPTC)] were contacted but did not have an official position on the truck parking issue.”

(Study of Adequacy of Commercial Truck Parking Facilities--Technical Report (FHWA-RD-01-158) 2002)

Although these groups and individuals wanted to alleviate the truck parking problem, their viewpoints were decidedly different. The stakeholders believed that the trucking industry should be primarily responsible for ensuring adequate parking to meet the needs of most professional drivers. In cases where these needs are not being met, they believed that the trucking industry should look for alternative parking options, which may include agreements with shippers and receivers and/or development of scheduling discipline to improve the current truck parking facilities’ efficiency or throughput.

Some of these stakeholders recommended that the government increase funding for truck parking spaces at public rest areas, remove truck parking restrictions at current rest areas, designate more truck parking at existing facilities, and open park-and-ride facilities to truck parking.

The motor carrier industry strongly supported improved communication methods to increase awareness of existing facilities, including variable message signs, brochures, telephone messages, and Internet postings. Shippers and receivers strongly believed that the Federal government should mandate highway funds for building public rest areas, given identifiable need. These stakeholders also believed that public-private partnerships could

increase parking capacity and that low-interest loans and/or state-owned land should be used to develop new facilities.

A lack of consensus currently exists about who should be responsible for increasing truck parking. Transportation officials and citizen groups cite safety and crash data to justify their arguments for expanding facilities, yet the cost of land, especially in urban areas, is often prohibitive. Other private sector groups feel that government-supported expansion or private partnerships will upset the economics of current truck support facilities and will confer unfair advantages to new entrants. Studies seem to indicate that while there may be an adequate supply of truck parking, it is often not in high demand areas. An effort to provide real-time information on truck parking availability seems to be an acceptable solution to both sides of the debate.

Interstate maintenance funds support public rest areas along interstate highways. Federal law prohibits states from allowing private enterprises to sell goods in interstate public rest areas for profit. Some exceptions exist in New York and Pennsylvania, where these concessions pre-dated designation of interstate status. This Federal law was enacted to avoid conferring unfair advantages to private companies with direct interstate access over concessionaires, which operate off the interstate exits.

Several states have explored rest area commercialization, but federal law currently prohibits it. "The National Association of Truck Stop Owners believes that private development on interstates will adversely affect the businesses of members located at exits as well as the local economy through decreased employment, tax base, and tourism." Public-private partnerships have been explored on a limited basis with the Oasis concept which the Federal Highway Administration approved on October 18, 2006. The Oasis program requires facilities to be within three miles of the interstate system, meet certain geometric and access specifications, and stay open 24 hours a day, seven days a week. Truck parking up to 10 hours will be allowed at these new Oasis facilities.

Congress established the truck parking initiative in the 2005 highway reauthorization bill, SAFETEA-LU. The truck parking initiative is a pilot program designed to increase the availability of long-term parking for commercial motor vehicles along the National Highway System. The pilot program is funded through Fiscal Year 2009. The Federal Highway Administration determined that \$5.385 million is available for grants in Fiscal Year 2006. In 2007, Congress authorized \$24 million through 2009 for state and local governments to pay for more truck parking along major highways and interstates. States can get this money to look for "parking solutions"—which could mean creation of new parking spaces or a system that alerts truckers to available parking spaces. This legislation represents the first time that Congress has set aside money for this purpose, realizing that new truck parking capacity will take a combined effort by all stakeholders.

In a series of listening sessions, state partner groups recommended the following short-term actions:

- Construct new public rest areas with additional truck parking spaces
- Consider public truck parking only rest areas
- Increase the priority of public rest area construction
- Add new truck parking spaces to existing public rest areas
- Redesign rest areas to improve vehicle circulation through the lot
- Convert parallel parking to pull-through parking for trucks
- Convert closed public rest areas into parking facilities
- Investigate the use of federal funds for rest area maintenance
- Explore alternative financing of public rest area construction
- Develop pilot projects for public rest areas

- Partner with other state agencies, such as the Department of Tourism
- Improve security at current sites with call boxes, cameras, and enforcement
- Identify combining use of current ports-of-entry, weigh stations, and police substations with truck parking facilities

Public rest areas and commercial truck stops are very different facilities. It is important to note that commercial enterprises offer many incentives and repeat purchasing programs to build brand loyalty. Given an option, truckers generally prefer to park in a familiar area and frequent locations where a wide range of services are provided.

Providing information on parking availability is one way to smooth demand in overcrowded areas. Examples of information initiatives for the future include the following:

- Educate drivers on the safety benefits of rest and related driver fatigue symptoms
- Develop ITS systems to deploy real-time information on current availability
- Publish a “Truckers Map” to pinpoint commercial truck parking areas
- Distribute parking information in credential mailings
- Use improved signage to inform users of parking availability

Policy and enforcement changes have been considered by several states, which include:

- Increased enforcement of parking rules at interchange ramps
- Changing parking limits to permit trucks more time at public rest areas
- Encouraging more local government and business support for operating commercial truck stop facilities
- Encouraging better recognition of credit and tax incentives for terminal operators who provide 24 hour access to “truck staging areas”
- Establishing building requirements for future warehouse and terminal facilities to incorporate truck parking and staging facilities as part of the development/building permitting process
- Encouraging public-private partnerships

In summary, the stakeholders agree that truck parking needs to be improved. In reality, the facilities differ significantly based on the funding source. Public facilities are very basic and will likely remain that way as long as they are primarily funded by federal sources. Private firms, however, have much more incentive to build new facilities and/or expand existing ones, but would greatly benefit if public policy and sentiment were more favorable towards trucking. Issues such as land use, zoning, and delivery curfews impact the development of new facilities. In the interim, the common solution that all can agree upon is improving communications systems to help match users with available parking spaces.

4.2 FINDINGS—IMPACTS

Environmental truck parking problems are the easiest to verify. With no electrical outlets or other accessible comforts (such as IdleAire, see below), truckers randomly parking in undesignated areas have to idle their engines to provide heat, air conditioning, and anything else requiring electricity. Idling diesel engines produce unnecessary amounts of carbon dioxide emissions, and contribute to the greenhouse effect, while at the same time the carbon monoxide emissions caused by the inefficient burning of fuel from idling is a toxic, ground level pollutant that is harmful to the surrounding environment and human life, especially pregnant women. The potential for oily and other synthetic residue runoff from

trucks and leaking hazardous cargo into sewer systems or aquifers are also potential problems. Truck parking should be regulated so that any runoff from trucks can be contained before being redirected into some other purification system.

The inadequacy of available truck parking can lead to problems which basically fall under three categories: economic, safety, and environmental. This study does not assume that parking trucks in locations other than designated lots is a problem; on the contrary, it is important to identify possible problems, and objectively decide whether parking in a specific location is a problem and to what extent it is a problem.

Economic pressures imposed on truckers are issues which may not seem immediately clear when dealing with the broader issue of truck parking. However, the inadequacy of truck parking and various time- and operating hour-restrictions that truckers face may leave them thinking that they have no choice but to violate the laws. This may not seem like a serious issue that the broader public ought to be concerned with; however, from meetings and conversations with transportation professionals that were a part of this study's process, the supply of truck drivers is rapidly decreasing, essentially because of poor pay and high costs, which are only being proliferated by the current state of truck parking. This is an economic issue, but it does not take an economist to imagine the implications of an increasing shortage of freight transportation.

Other pressures on trucking include the shrinking supply of drivers, diesel fuel prices, and containerization. Although trend forecasting is difficult, one may see long haul truckers relaying loads at intermediate points in order to allow both drivers to return to their respective homes, essentially, shuttling back and forth between their home parking/rest places and a swap point. This may require changes in trailer ownership practices or the use of leased chasses.

4.3 FINDINGS—IDLE REDUCTION TECHNIQUES

The research team also collected data on the use of various idle reduction techniques. With no electrical outlets or other accessible comforts, trucks parking randomly in undesignated areas must idle their engines to provide heat, air conditioning, and anything else requiring electricity. This becomes an environmental issue for the neighborhood or area in which a truck is parked and an economic issue for the driver bearing increased fuel costs in an increasingly difficult climate. Advances in idle reduction techniques, along with their widespread implementation would help drivers lower their costs and encourage them to park at authorized locations which in turn benefits areas where illegal and nuisance parking is occurring. Unfortunately, many independent drivers, already struggling, cannot afford the time it takes to get to an existing facility (and away from their delivery location) or pay fees charged for using idle reduction products. In places such as Michigan where the state has invested in IdleAire for drivers, they are getting good responses and seeing improved situations. Drivers are able to plug in their phones, televisions, and computers; use IdleAire's Internet services; and control the level of heat and air conditioning. In this situation, everyone benefits: drivers lower their fuel costs and reduce wear on their trucks while other drivers and the surrounding community experience cleaner air. However, other states are unlikely to follow suit because little funding is available for pursuing programs such as this. The research team therefore recommends other programs which likely provide more immediate benefits, but encourages stakeholders to consider further development of less expensive idle reduction techniques that might be easier to implement in municipalities and other hard-to-serve areas.

4.4 FINDINGS—PRELIMINARY DESIGN STANDARDS AND IMPLEMENTATIONS

To satisfy the concerns of municipalities and other local authorities dealing with nuisance parking and its resulting problems, the research team explored development of a truck parking site design and construction guide. This guide should include standards that consider truck parking requirements for typical independent, over-the-road trailers as well as local trucks using local roads and highways. Figures 12, 13, and 14 illustrate some of the typical elements that should be included in this guide.

The suggested handbooks and design guides can be compiled through further research and engineering. A bibliography of these additional efforts would pursue the following avenues for investigation and would look for the following:

IDOT Design References:

<http://www.dot.state.il.us/dobuisns.html>
<http://www.dot.state.il.us/desenv/demanuals.html>
<http://www.dot.state.il.us/desenv/bdmanual.html>

IDOT Bureau of Local Roads and Streets Reference Manual:

<http://www.dot.state.il.us/blr/manuals/blrmanual.html>

Illinois State Toll Highway Authority Design Reference Manual:

http://www.illinoistollway.com/portal/page?_pageid=133,1391313&_dad=port
http://www.illinoistollway.com/portal/page?_pageid=133,1394054&_dad=port
http://www.illinoistollway.com/portal/page?_pageid=133,1394053&_dad=port

Organizations:

ITE <http://www.ite.org/>
AASHTO <http://www.transportation.org/>
FHWA <http://www.fhwa.dot.gov/fhwaweb.htm>
TRB <http://trb.org>

References:

AASHTO "A Policy on Geometric Design of Highways and Streets, 5th Edition

CHAPTER 5 TRUCK PARKING/REST FACILITY STUDY RECOMMENDATIONS

5.1 GENERAL RECOMMENDATIONS

Generally, truck parking in the greater Chicago metropolitan area works very well, but a small fraction of the trucks generate nuisance parking problems. These problems fall into two sets, which overlap in some areas but come from different businesses that have little overlap between constituent groups needed to address the issues. Because of these differences, this study recommends the use of separate processes in addressing these problem sets.

The first set of problems is primarily made by over-the-road truckers, who are mainly independent haulers that are laying over in the greater Chicago metropolitan area for a variety of reasons. Since the Chicago metropolitan area is a major hub in the national road network, many interregional truck trips pass through this area and find its dense traffic as problematic. Most of these truckers, who park for an extended time period, find parking at company-owned sites, privately owned service centers, or public rest areas scattered throughout the area. The large concentration of commerce and industry also makes Chicago an origin and destination of interregional trips and these terminals may act as short-term truck parking areas. However, a small fraction of these drivers may find no parking at some point and are perceived as creating nuisances when they park on road shoulders or interchange entrance or exit ramps.

The second problem set is caused by in-city delivery drivers, whose employers are occasionally involved in contentious relationships with governments or private property owners. Their employers range from very large operations with many units to small or owner-operated companies with only a few trucks. In-city delivery includes a large range of equipment types and sizes which make scheduled deliveries from their own warehouses and serve only their outlets. The small consolidators or contract delivery services usually follow different routes from day-to-day. Although very little tabular data was generated in this study about in-city delivery, there was a broad range of anecdotal information centered on trucks that serve consumer outlets. The trips that these truckers make generate noise from idling equipment and from loading and unloading during evening hours, create commercial traffic on residential streets, and exhaust fumes. The diversity of these complaints and conditions has led local governments to adopt equally diverse solutions.

5.2 OVER-THE-ROAD TRUCK PARKING PROBLEMS

This report finds that over-the-road trucks produce a surprisingly small parking problem in the area, especially when considering traffic volumes. This small incidence within the larger phenomenon can be explained by the trucking industry's structure. The large transportation companies, who own a large number of over-the-road trucks, have provided their drivers with parking and service facilities either on their own or through contracts with third parties. These truckers are most often equipped with an intelligent trucking system where each unit is data linked and in frequent voice communication with the company. Any problems these trucks have are quickly dealt with by telephone or over the Internet. Visual observations confirm this since only small company or independent truckers are parked where they might be considered problems. These small company or independent truckers have the fewest resources; especially devices to notify them of available truck parking. However, they are usually connected to the wireless world through

cell phones or wireless PC. Most truckers also have satellite radio and/or GPS and can receive information through them. The most noticeable truck parking problem is the congregation of trucks along highways. Most casual analysts suggest more truck parking as a solution. However, it is not immediately clear if this would be effective since truckers still need to be informed of the location and availability of more appropriate and convenient parking.

5.3 OVER-THE-ROAD DESIGN GROUP

This study suggests forming an over-the-road design group to address this situation and make proposals. Its membership should be made up of people who are familiar with the over-the-road trucking problems and who are stakeholders or their representatives, such as CMAP, ISTHA, IDOT, and ILTA. The research team also recommends that some of these members have engineering expertise, especially when it comes to assessing sites for additional parking.

The over-the-road truck parking problem is greatest on the study area's southern edge, especially along I-80 and I-294. The over-the-road design group should therefore focus on these areas. However, problems sporadically exist in pockets throughout Chicago and in the remaining study area, which also need attention. The over-the-road design group should therefore address ways to increase truck parking near highways. This group should make plans to build, lease, or contract for additional parking where needed and suggest ways to disseminate timely, accurate information. Where truck parking seems needed at some distance from the highway and in smaller sizes, this study suggests that the scattered site group may more suitably deal with this problem.

Over-the-Road Design Group Tasks:

1. Expand the research team's analysis of the quantity and availability of parking to include existing paved areas that could be quickly used as truck parking. This should be done by GIS or traditional map searches.
2. Further examine the possibility of additional private sector parking/service facilities. It may be possible for the private sector to add new facilities that could relieve parking problems along I-80, although this might not be possible on toll road property.
3. Verify whether nearby, existing unused areas are suitable from a preliminary engineering point of view (e.g. drainage, utilities, access, size, and geometry). A site visit to observe nearby properties will help determine site suitability.
4. Ascertain site ownership and inquire about their availability for purchase, lease, or rent for truck parking.
5. Suggest ways of providing real-time information of actual parking spaces. This might be achieved through monitoring wireless surveillance cameras with IP addresses that are located at the selected sites.
6. Propose a means to assess and disseminate this information to truckers on an ongoing basis and establish a group to monitor and update the information and databases.

5.4 SCATTERED SITE TRUCK PARKING PROBLEMS

There is not an easy way to name a group or institution who might lead on this topic. Unlike over-the-road truck design issues, this area of concern encompasses parking and other related problems that are widely distributed and take differing forms. The individual enterprises involved are as diverse as the groupings and associations they form. Although many of the problems are located in shopping centers and strip malls along main through roads or collector streets, many more are located in isolated locations. Serving these enterprises can lead to a number of conflicts. Normal delivery activities and the associated noise and congestion that cause no concern at one location might lead to governmental action in another location. In most cases, these problems are caused by incompatible adjacent land use types. While small shopping strips or isolated stores can be a boom to local shoppers, immediate residents can feel imposed on and complain to authorities. This can lead to a downward spiral that can lead to the closing of some of these stores and the loss of associated services, tax base, jobs, and livelihoods.

5.5 SCATTERED SITE DESIGN GROUP

This study therefore recommends formation of several ad hoc groups that represent specific regional sub-areas. While individual civil divisions usually deal with these problems on their own, this approach often leads to a patchwork of regulations that causes a ripple effect of problems. For instance, regulating night-time deliveries leads to more truck traffic during rush hours and increases congestion. These ad-hoc groups could therefore be tailored to fit sub-areas where there are groupings of similar concerns expressed by either service providers or local governments. This study recommends that groups be formed as a council of governments of affected local governmental units. One such example of this is the South Suburban Mayors and Managers Association in the southern part of the study area.

Scattered Site Design Group Tasks:

1. Form council of governments around joint concerns or problems and determine membership to address identified issues. This might include more than direct stakeholders and can be expanded to include individuals or groups with needed expertise.
2. Categorize problems, determine the relationships and synergies among them, and suggest project teams.
3. Develop a locally responsive design guide and engineering handbook.
4. Organize planning teams to provide detailed site plans or designs to alleviate some delivery problems at shopping centers, possibly including hours of operation, commercial routing and maximum weight rules, zoning, and land use plans.
5. Address scattered truck parking problems by identifying parking zones on major roads or developing small parking areas on otherwise unusable adjacent sites, such as brownfields or LUST locations. Form small scale planning and design teams to provide preliminary solutions.
6. Alleviate truck parking by forming agreements with private property owners of existing truck facilities to allow extended hours for access and allow access for trucks not normally doing business there.

REFERENCES

Dealing with Truck Parking Demands, Project 20-5 FY 2002, Transportation Research Board, NCHRP Synthesis 317: National Cooperative Highway Research Program, Washington, DC, 2003.

Rest Area Forum: Summary of Proceedings 1999, Turner Fairbanks Highway Research Center, tfhrc#34, McLean VA, Dec 1999 62 pages

Study of Adequacy of Commercial Truck Parking Facilities—Technical Report, Science Applications International Corporation, Report FHWA-RD-01-158, Office of Safety Research and Development, Turner—Fairbank Highway Research Center, Federal Highway Administration, McLean, VA, March 2002, 68pp.

Truck Parking Areas, Highway Special Investigation Report NTSB/SIR-00/01, National Transportation Safety Board, Washington, DC, May 2000.

APPENDIX A: ILLUSTRATIONS IN 11X17

Truck Parking Study

COAllinois Institute of Technology

Study Area and Multi-Unit Traffic Volume

Peter Beltemacchi- Associate Dean/ COA
Laurence Rohter- Adjunct Professor/ CAEE Dept
Jac Selinsky- Student/ COA

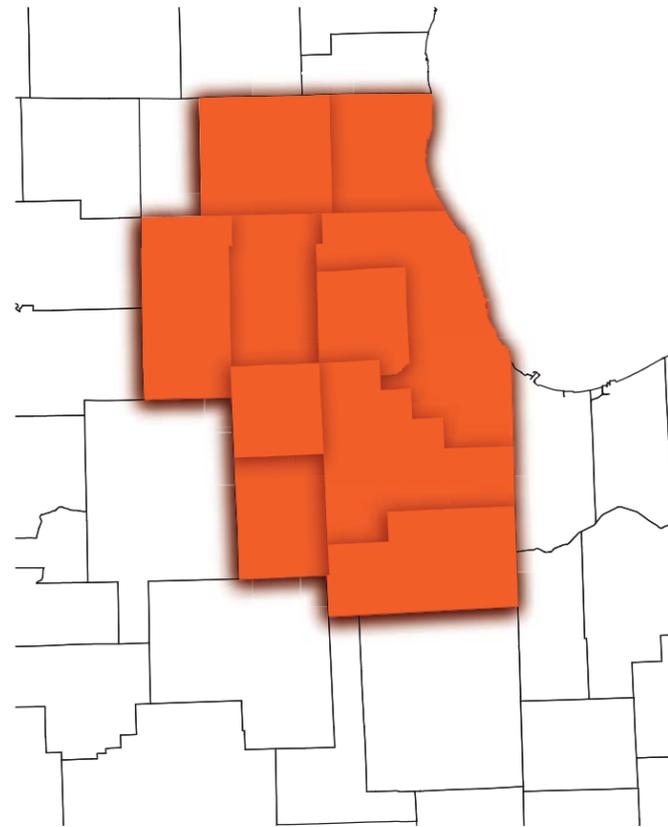
March 26, 2008

The map on the left shows the focus area of the Truck Parking Study, which are the counties: Cook, Lake, McHenry, DuPage, Kane, DeKalb, Kendall, Grundy, Will and Kankakee.

The diagram on the right shows roadways with multi-unit volume of greater than 1. Thicker lines indicate proportionally higher multi-unit volume.

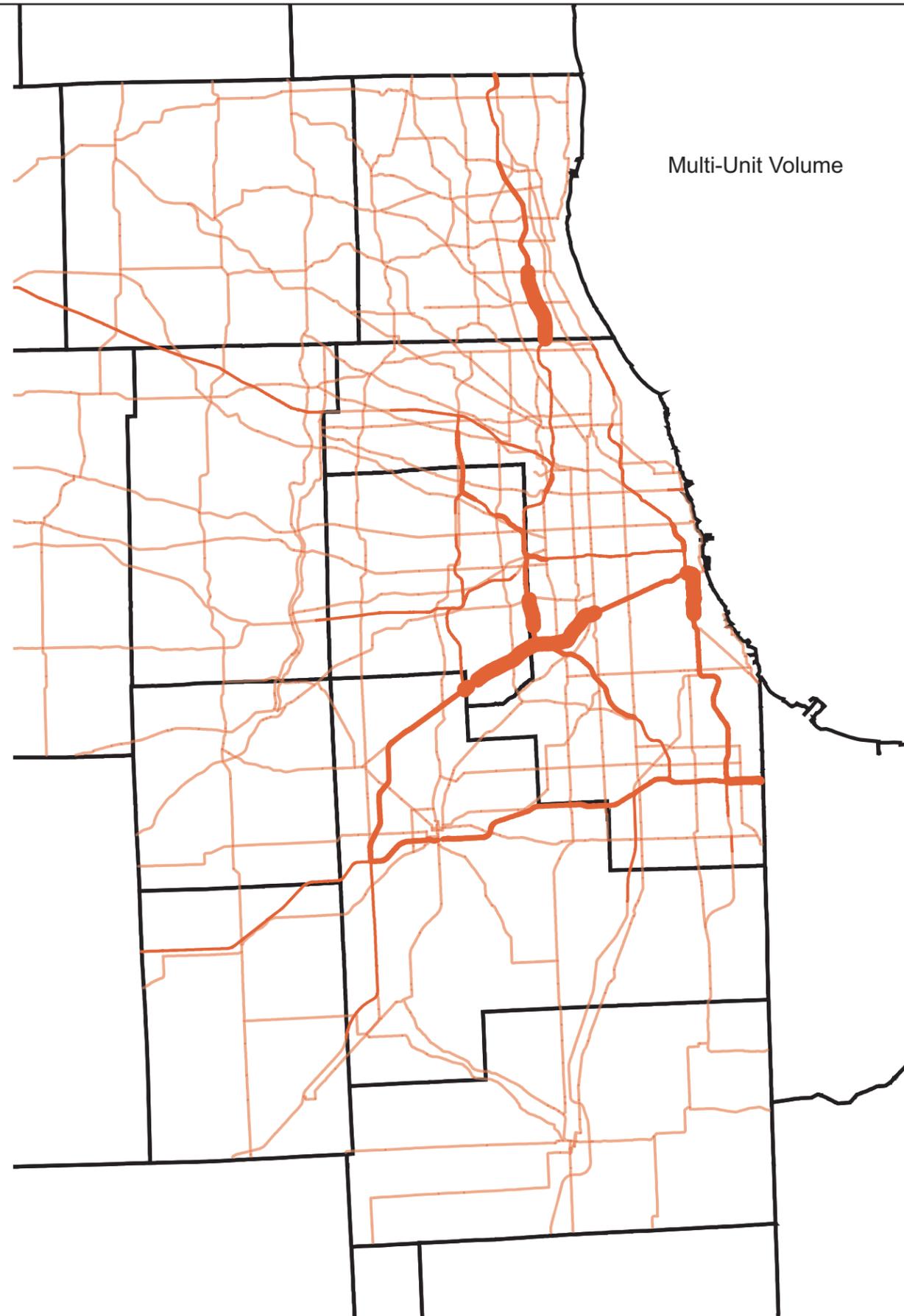
-  County Borders
-  Roadway (High Traffic)
-  Roadway (Medium Traffic)
-  Roadway (Low Traffic)

**Illinois Department of Transportation traffic statistics*



Study Area

Figure 1



Multi-Unit Volume

Figure 2

Truck Parking Study

COAllinois Institute of Technology

Truck Parking Supply

Peter Beltemacchi- Associate Dean/ COA
 Laurence Rohter- Adjunct Professor/ CAEE Dept
 Jac Selinsky- Student/ COA

March 26, 2008

The diagram on the left shows the locations of truck parking lots, within the study area as well as just beyond. The larger the circle the greater the number of parking spaces.

The graph demonstrates the range of sizes of parking lots that were recorded for this study.

● Truck Parking Location

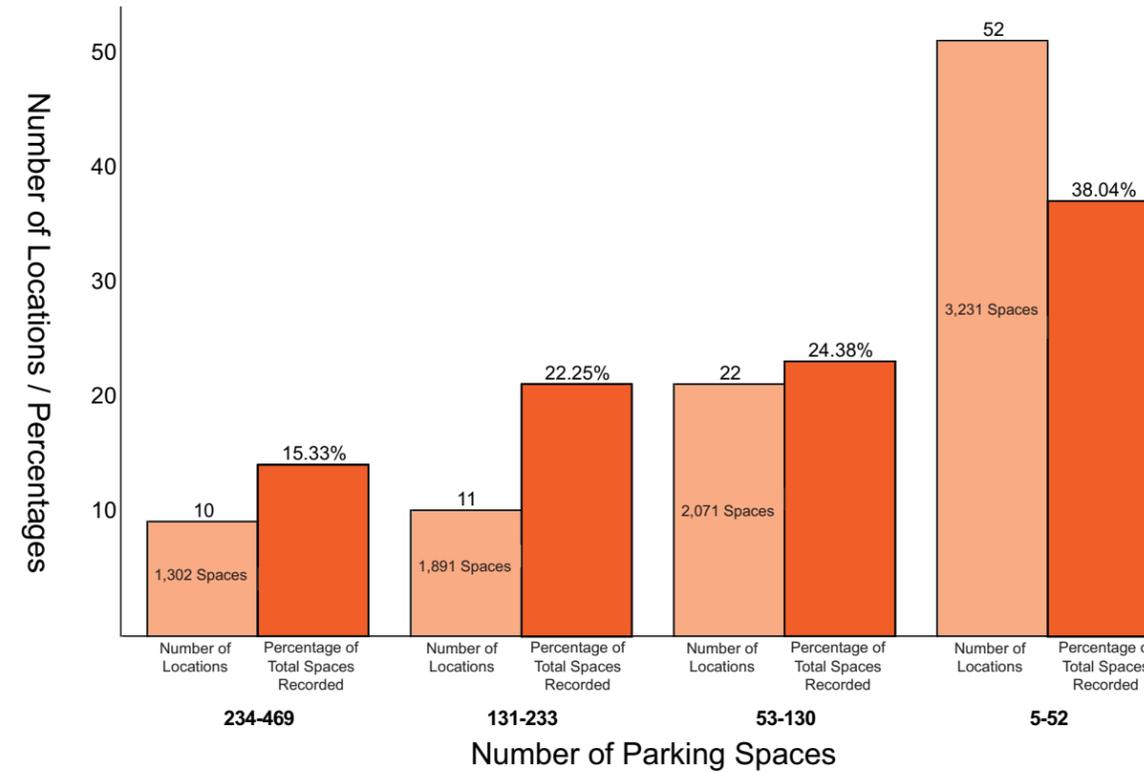
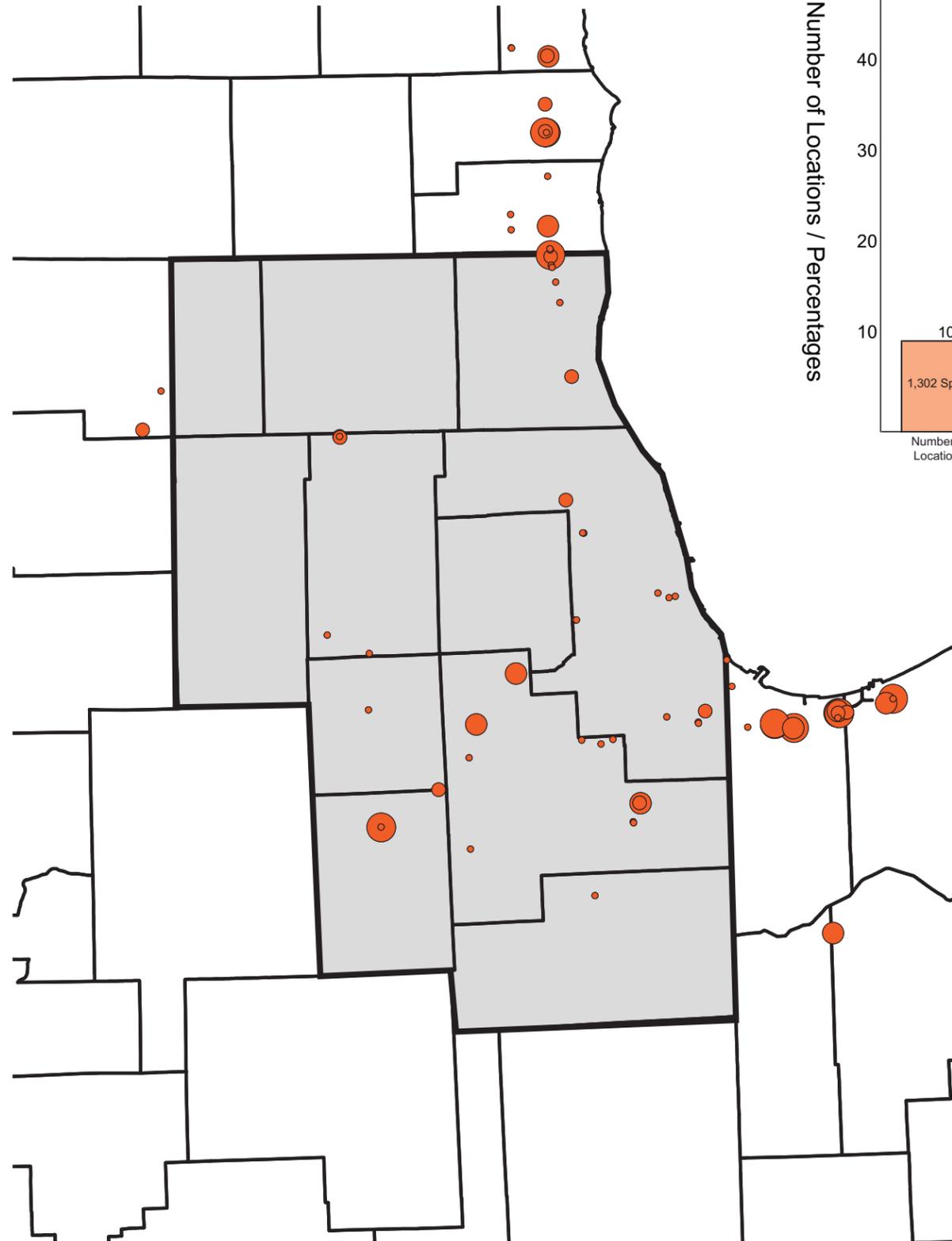


Figure 3

Figure 4

Truck Parking Study

COAllinois Institute of Technology

Interview Process Diagrams

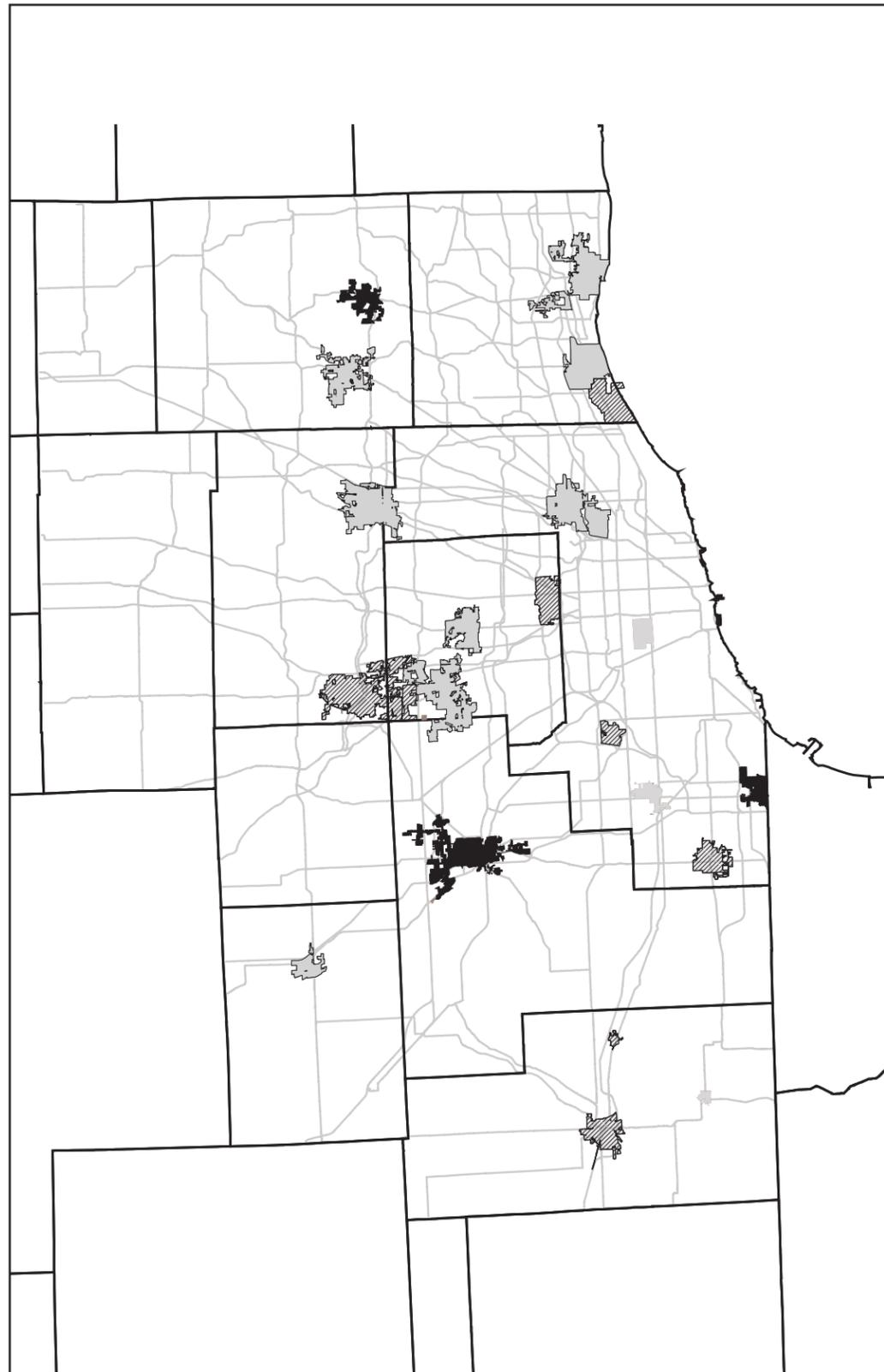
Peter Beltemacchi- Associate Dean/ COA
 Laurence Rohter- Adjunct Professor/ CAEE Dept
 Jac Selinsky- Student/ COA

March 26, 2008

These diagrams represent the three interview processes that were conducted: municipal (local police), highway (state police) and non-municipal (sheriffs). The various patterned areas indicate either complaints, or the severity of complaints, based on color.

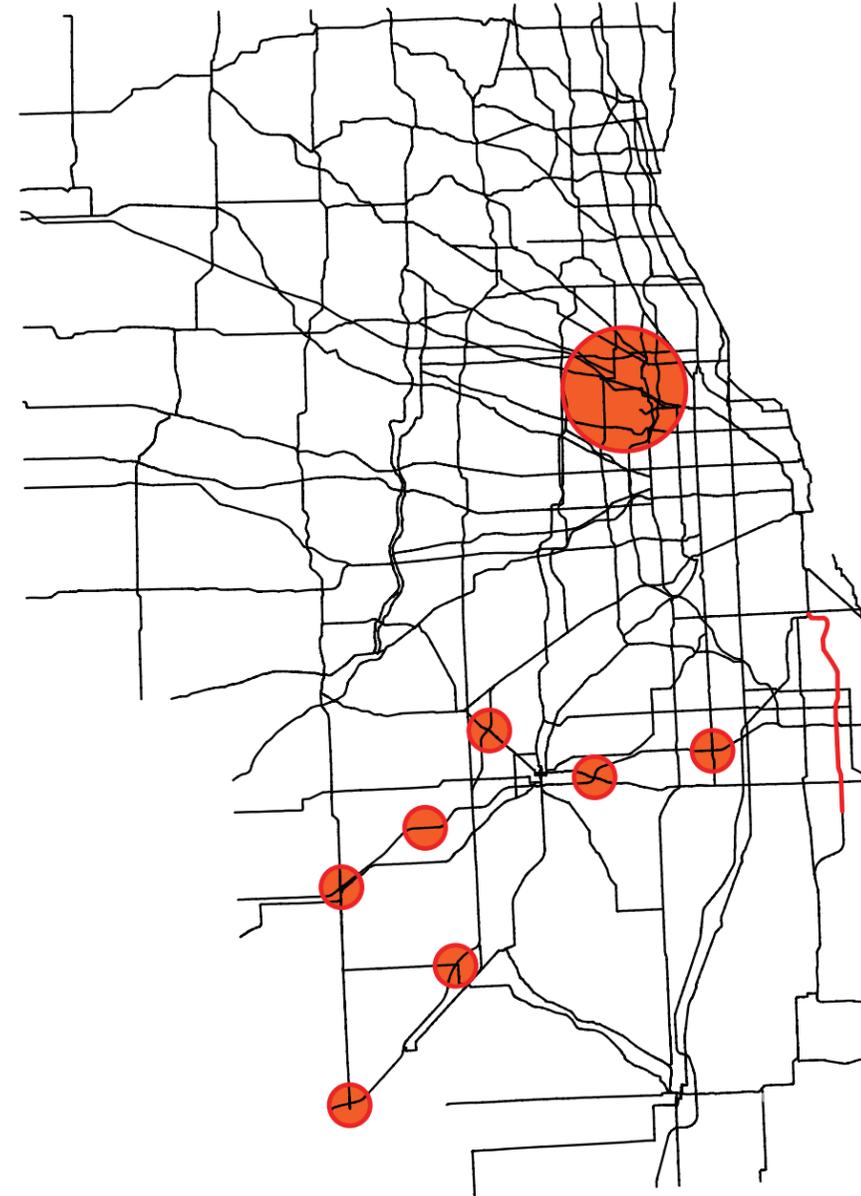
-The municipal diagram on the left shows that from the interviews conducted, although there was a range of responses, no real patterns were found.

-The highway diagram on the right shows that complaints were primarily concentrated in the southern portion of the study area, along primary corridors.



Municipal (Local Police)

Figure 5



Highway (State Police)

Figure 6

- Municipal*
- Serious Complaints*
- Mild Complaints*
- No Complaints*
- Highway*
- Problem Spot*

Truck Parking Study

COAllinois Institute of Technology

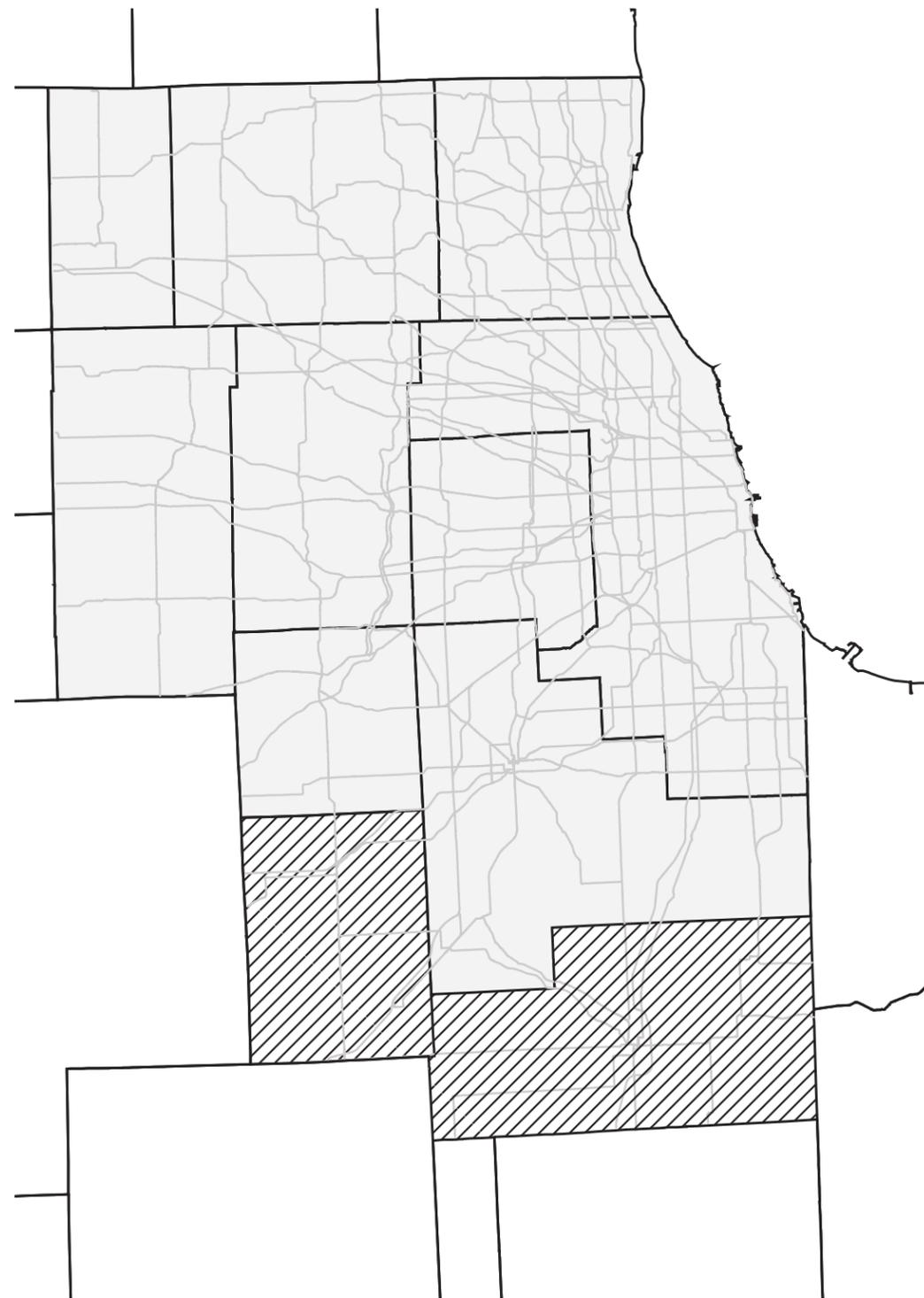
Interview Process Diagrams Contd.

Peter Beltemacchi- Associate Dean/ COA
Laurence Rohter- Adjunct Professor/ CAEE Dept
Jac Selinsky- Student/ COA

March 26, 2008

-This diagram shows that from the interviews conducted, very little concern was expressed by interviewed sheriffs with regards to parking outside of municipalities.

//// //// Mild Complains
□ No Complains



Non Municipal (Sheriffs)

Figure 7

Truck Parking Interview Analysis								
State Police District	Problem	Type						Description
		Parking lot (abandoned)	Parking Lot	Side Street	Residential	Freeway Shoulder	Freeway Ramp	
County (Sheriffs)	City (officials)	Police Department						
2		N						Near O'Hare
DeKalb								
DuPage	N							
Elmhurst	Y				X			
Elmhurst	N							
Naperville	N							
Naperville								
Wheaton	N							
Wheaton	N	X	X	X				
Kane	N							
Elgin	N							
Elgin								
Aurora	N							
Aurora	Y			X				NEAR DISTRIBUTION CENTERS COULD ONLY THINK OF TWO HOUSES THAT HAVE TRUCKS PARKING BUT DIDN'T EVEN GET ANY COMPLAINTS ABOUT IT
Lake	N				X			
Highland Park	N							
Highland Park	Y			X				OVERNIGHT
Waukegan	N							
Waukegan	N							NEAR INTERSTATE
Lake Forest	N							
Lake Forest	N							DOWNTOWN WHILE MAKING DELIVERIES
McHenry	N							
McHenry	Y							NEAR METRA CONSTRUCTION SITE
McHenry	Y	X	X	X				
Crystal Lake	N							
Crystal Lake	N							ALONG RT 14
Chicago	Y/N							
Cook	N				X			RESIDENTIAL AREAS, CENTRAL STICKNEY
DesPlaines	N							
DesPlaines	N							
Calumet City	Y		X	X	X			BEHIND RIVER OAKS SHOPPING CENTER
Calumet City	Y	X	X	X	X			
Palos Hills								
Palos Hills	Y/N							STREET MEDIANS, SHORT PERIODS OF TIME
Chicago Heights	Y/N			X				OVERNIGHT
Chicago Heights								
Park Ridge								
Park Ridge	N			X				
Cicero								
Cicero	N				X			CLOSE TO CICERO AND MAIN
5		Y						X
Grundy								
Morris	N							PARK OVERNIGHT- OWNER OPERATOR. CITY ACTUALLY HELPS DRIVERS FIND PLACES TO PARK
Morris	N							
Kendall								
Will	N							
Joliet	Y			X				OFF I80/ HOBOLT RD IND. PARK, STAY AT HOTELS AND PARK OVERNIGHT; COMMERCE LN IND. PARK, PARKING ALL DAY; I-80 LARKIN AND MCDONNA
Joliet								
16		N						
Boone								
21		Y/N						
Kankakee								MANTENO AND MOMENCE, PARK NEAR BIG FACTORIES AND DISTRIBUTION CENTERS, BECAUSE THERE ARE NO TRUCK STOPS
Momence								
Momence								
Manteno	N							
Manteno	Y							
Kankakee								
Kankakee	N							

Truck Parking Study

COAllinois Institute of Technology

Interview Spreadsheet

Peter Beltemacchi- Associate Dean/ COA
 Laurence Rohter- Adjunct Professor/ CAEE Dept
 Jac Selinsky- Student/ COA

March 26, 2008

This spreadsheet shows a breakdown of all interviews conducted.

 Authorities whose responses were not obtained

Figure 8

Truck Parking Study

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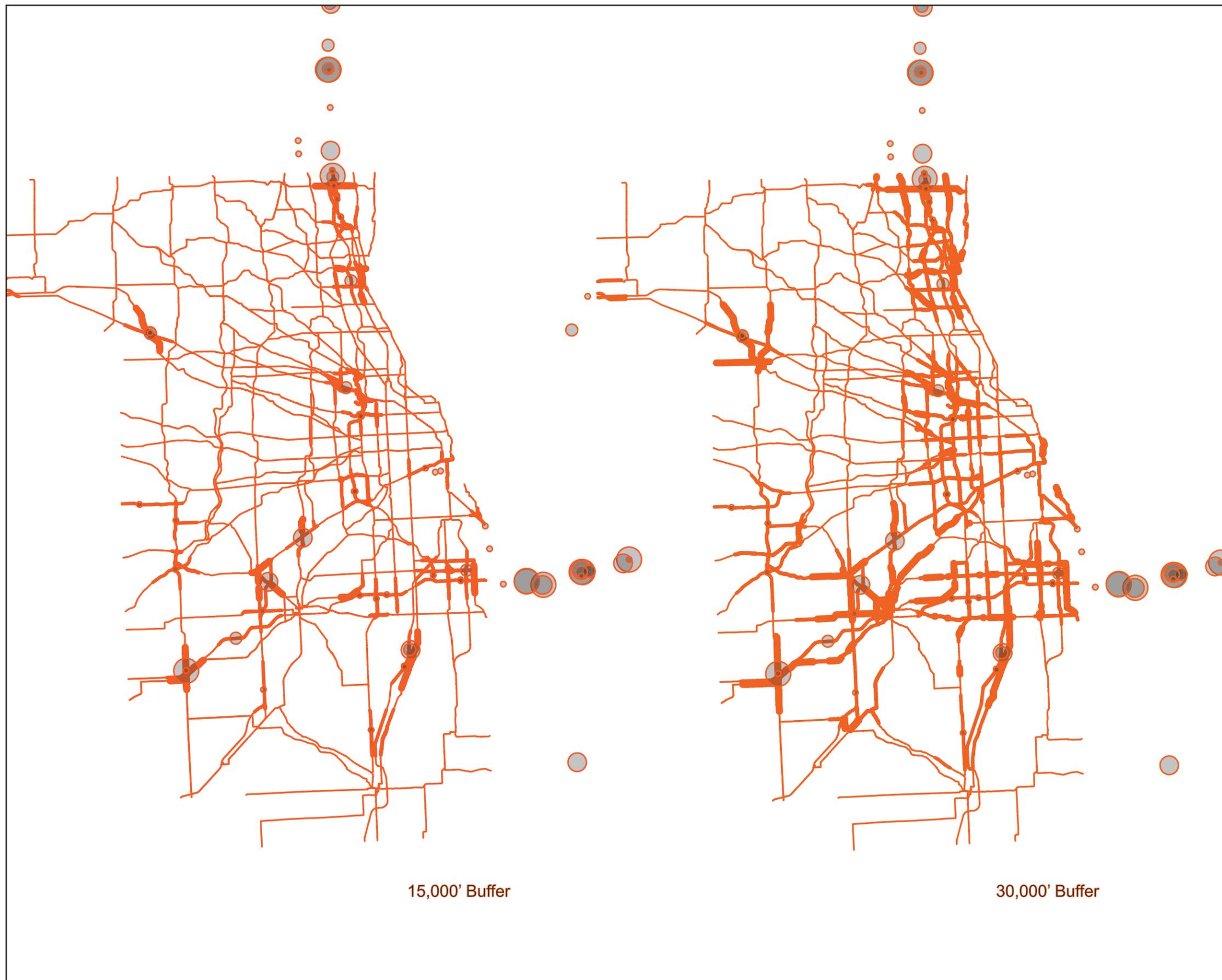
Truck Parking/ Traffic Volume Analysis

Peter Beltemacchi- Associate Dean/ COA
Laurence Rohter- Adjunct Professor/ CAEE Dept
Jac Selinsky- Student/ COA

March 26, 2008

These diagrams display the relationship between Chicago area truck parking supply and truck traffic. Using a 15,000 or 30,000 foot circular buffer around each parking location, the number of available parking spaces was divided by the MU traffic volume per highway segment. Parking lot 'bubbles' are sized proportionally by number of formal parking spaces. Line thickness represents the ratio of formal parking to traffic volume. The thickest lines indicate above average supply within the range of indicated parking locations.

-  Parking Lot
-  Road (Above Average %)
-  Road (Below Average %)



15,000' Buffer

30,000' Buffer

Figure 10

Figure 11

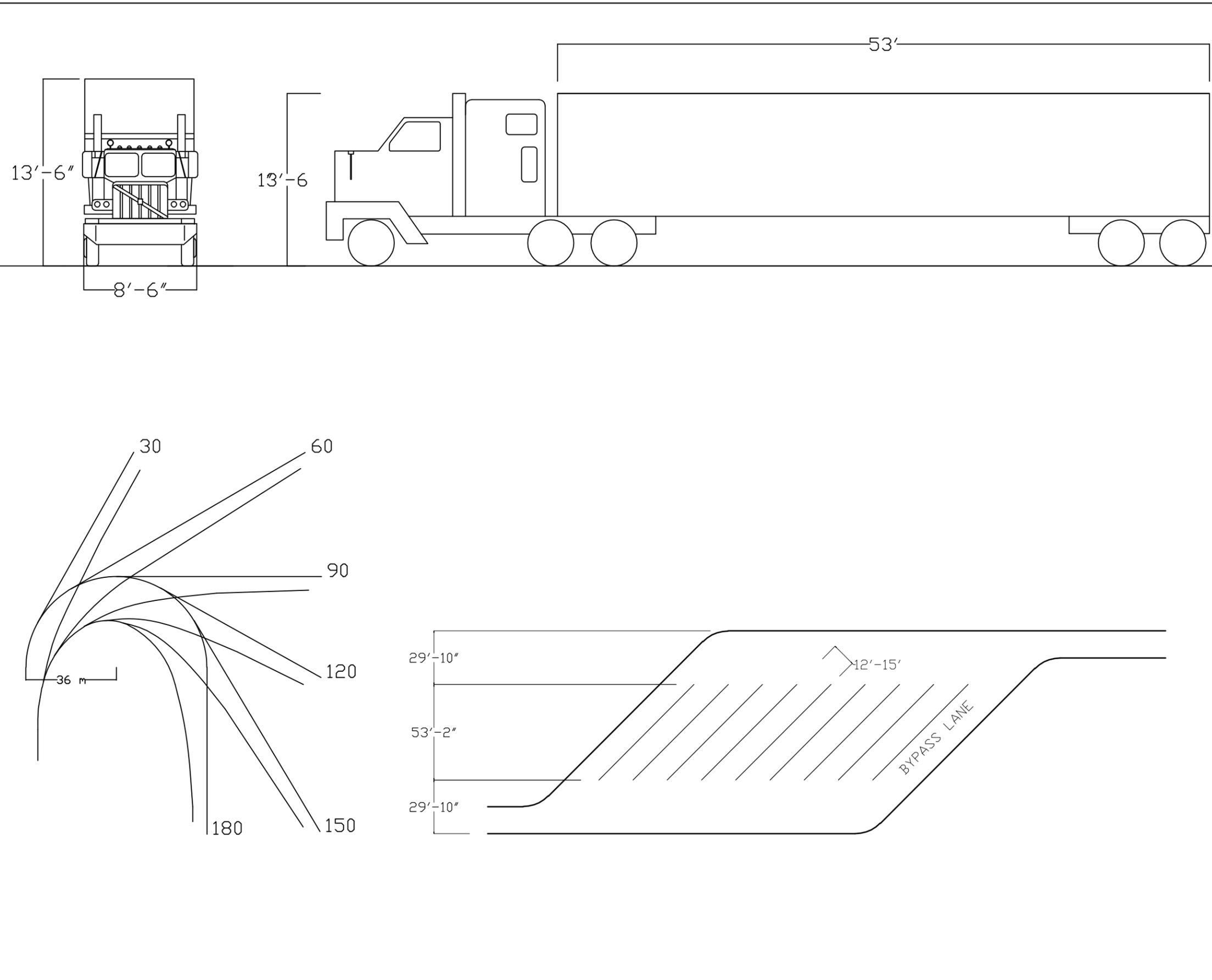
Truck Parking Study

COAllinois Institute of Technology

Dimensions and Radii

Peter Beltemacchi- Associate Dean/ COA
Laurence Rohter- Adjunct Professor/ CAEE Dept
Jac Selinsky- Student/ COA

March 26, 2008



This sheet displays the typical truck dimensions to be designed for, as well as a turning radius diagram and sample parking lot design.

Figure 12

These charts and drawings demonstrate the ideal pavement standards based on loads and traffic volumes.

Moderate Loads Thickness Chart: Parking Areas, Entrances, Perimeter Travel Lanes, and Frontage Roads Subject to 201 to 700 Autos/Day and/or 3 to 50 Trucks/Day (or Equivalent Axle Loads).

MODERATE LOADS						
Subgrade CBR	Surface Material	Pavement Thickness in inches on 1' of Prepared uniform Subgrade		Pavement Thickness in inches on 1' of Prepared Soil Subgrade with Granular Subbase		
		Minimum	Desirable	Granular Subbase	Pavement	
					Minimum	Desirable
9	Rigid	5.0	6.0	4	4.0	5.0
	Flexible*	5.0	6.0	6	4.0	5.0
6	Rigid	5.0	6.0	6	4.5	5.0
	Flexible*	6.0	6.0	8	5.0	5.0
3	Rigid	5.5	6.0	6	5.0	5.0
	Flexible*	6.0	7.0	8	6.0	6.0

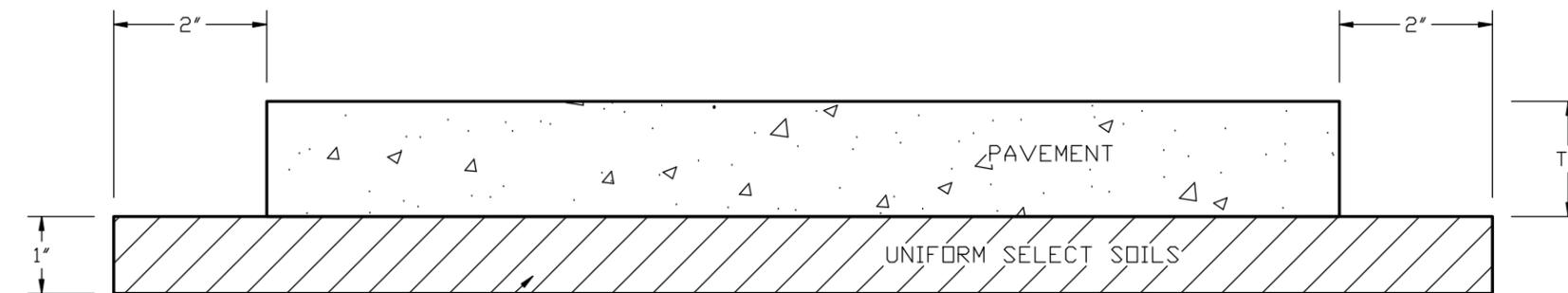
*In two lifts.

Thickness Chart: Heavily Loaded Areas in Parking Lots with 701/Autos/Day to 4,500 Autos/Day and/or 51 to 100 Trucks/Day (or Equivalent Axle Loads).

HEAVY LOADS						
Subgrade CBR	Surface Material	Pavement Thickness in inches on 1' of Prepared		Pavement Thickness in inches on 1' of Prepared Granular Subbase	Pavement Thickness in inches on 1' of Pavement	
		Minimum	Desirable		Minimum	Desirable
				9		
Flexible*	6.0	7.0	6		6.0	6.0
6	Rigid	6.0	7.0	4	5.5	6.5
	Flexible*	7.0	8.0	6	6.0	7.0
3	Rigid	6.5	7.5	6	6.0	7.0
	Flexible*	8.0	9.0	8	7.0	8.5

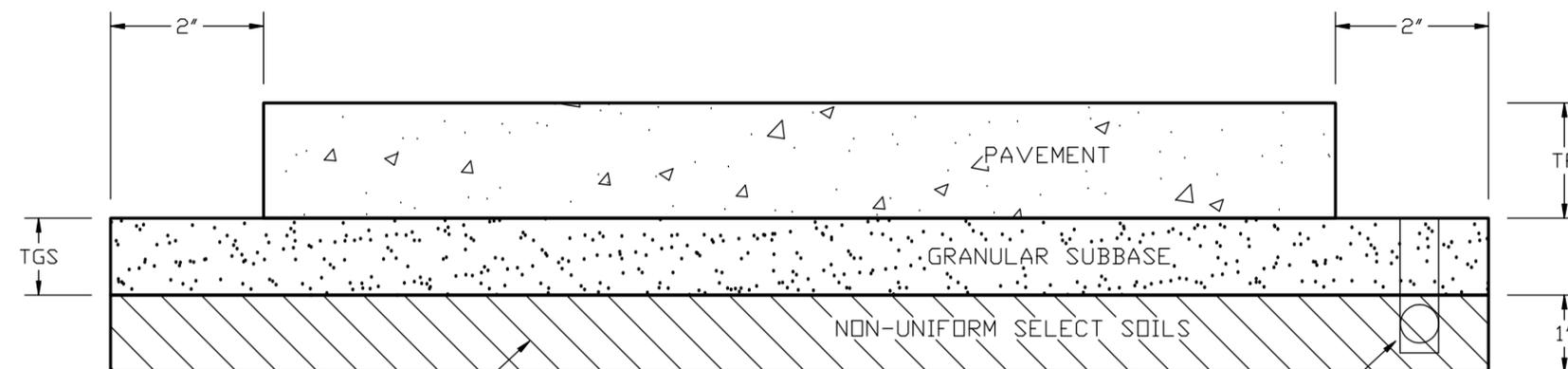
*In two lifts.

If soils test are not available to determine the CBR value and uniformity of the soil (before and after construction) a CBR value of 3 and a nonuniform subgrade should be assumed.



COMPACT WITH MOISTURE DENSITY CONTROL

TP: THICKNESS OF PAVEMENT



COMPACT WITH MOISTURE DENSITY CONTROL

TP: THICKNESS OF PAVEMENT
 TGS: THICKNESS OF GRANULAR SUBBASE

SUBDRAIN

Figure 13

*Design standards from Iowa DOT

Truck Parking Study

COAllinois Institute of Technology

Curb Design

Peter Beltemacchi- Associate Dean/ COA
Laurence Rohter- Adjunct Professor/ CAEE Dept
Jac Selinsky- Student/ COA

March 26, 2008

This is a simple guide to basic curb design.

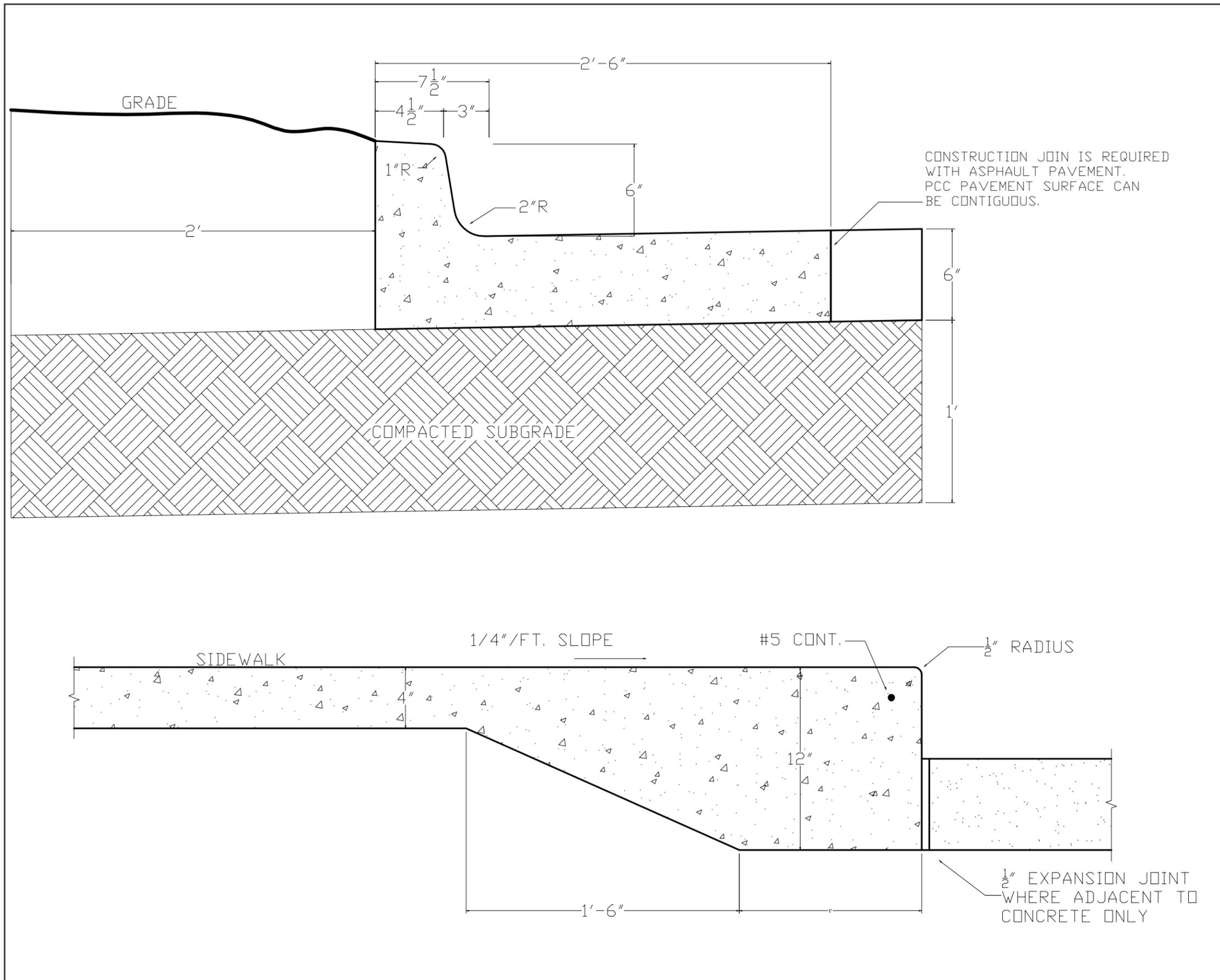


Figure 14

*Design standards from Iowa DOT

Truck Parking Study

COA Illinois Institute of Technology

U.S. Cellular Field Parking Lot Design

Peter Beltemacchi- Associate Dean/ COA
Laurence Rohter- Adjunct Professor/ CAEE Dept
Jac Selinsky- Student/ COA

March 26, 2008

This is a design proposal for an overnight truck parking lot in the US Cellular parking lot. This proposal suggests that rather than building additional parking areas, facilities that already exist can be used for truck parking during off-hours.

In this scheme the lot is accessible to I-94 north and south-bound routes via 35th Street. Nearby restaurants and convenience stores are available for services. This scheme requires minimal construction and operation expense.

-97 Spaces
-Enough Space for 131 single trailer trucks, 63 single-trailer trucks and 34 double trailer trucks.

-  Traffic Path
-  Parking Spaces
-  Buildings
-  Street

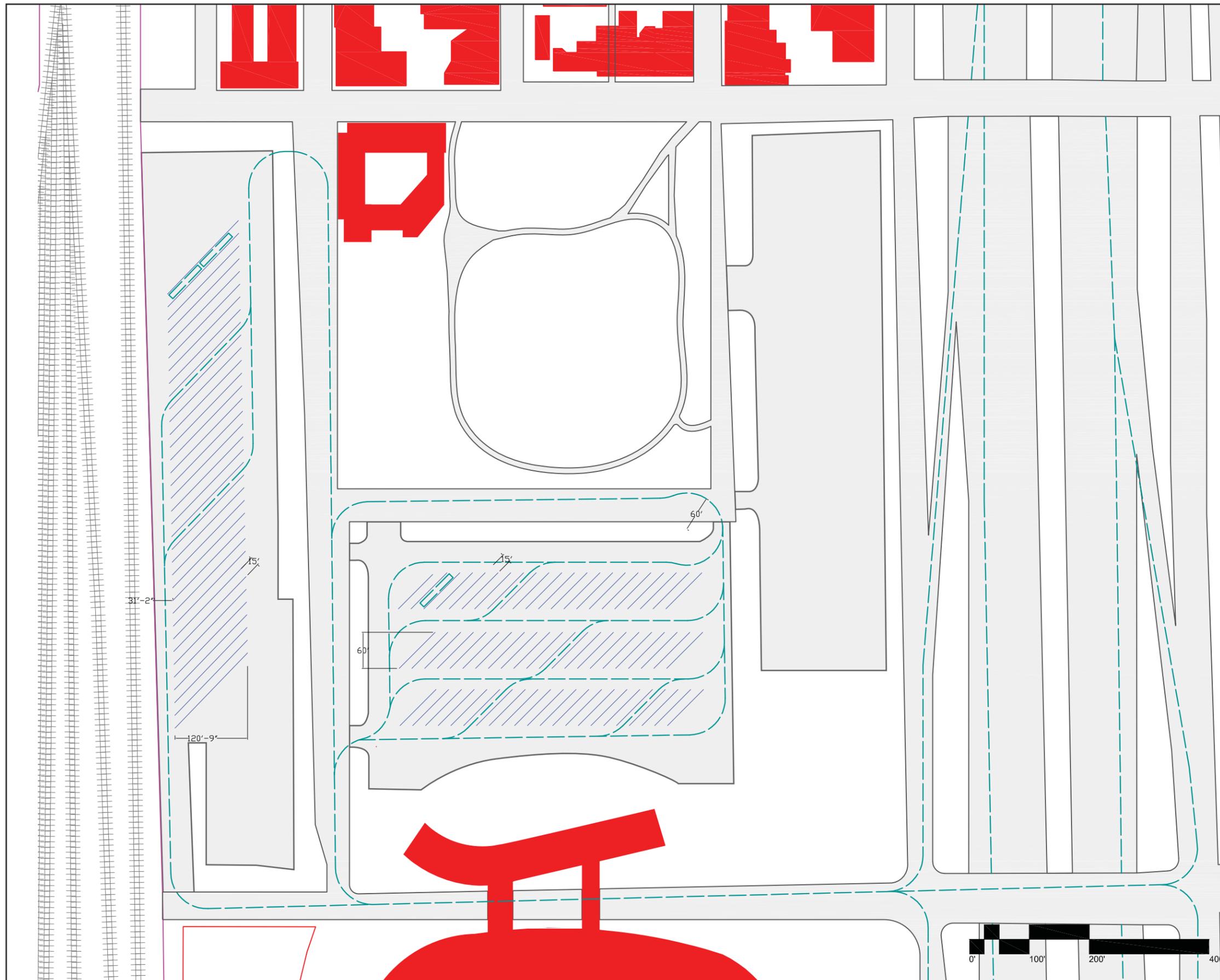


Figure 15

Truck Parking Study

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39th Street Parking Lot Design

Peter Beltemacchi- Associate Dean/ COA
Laurence Rohter- Adjunct Professor/ CAEE Dept
Jac Selinsky- Student/ COA

March 26, 2008

This scheme is for an abandoned lot at the corner of Halsted and 39th Street. What looks to be once the site of a gas station, this site should already have preferable soil conditions for heavy loads. Also, if the soil should be contaminated, this is a viable use for a contaminated site, and the soil could be remediated while used for parking.

This layout provides parking for the 39th Street corridor, and even has left over space which could be developed into a restaurant or convenience store, with parking for cars as well.

-3.75 Acres
-18 Spaces

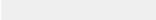
-  Traffic Path
-  Parking Spaces
-  Buildings
-  Street
-  Grass



Figure 16

Truck Parking Study

COA Illinois Institute of Technology

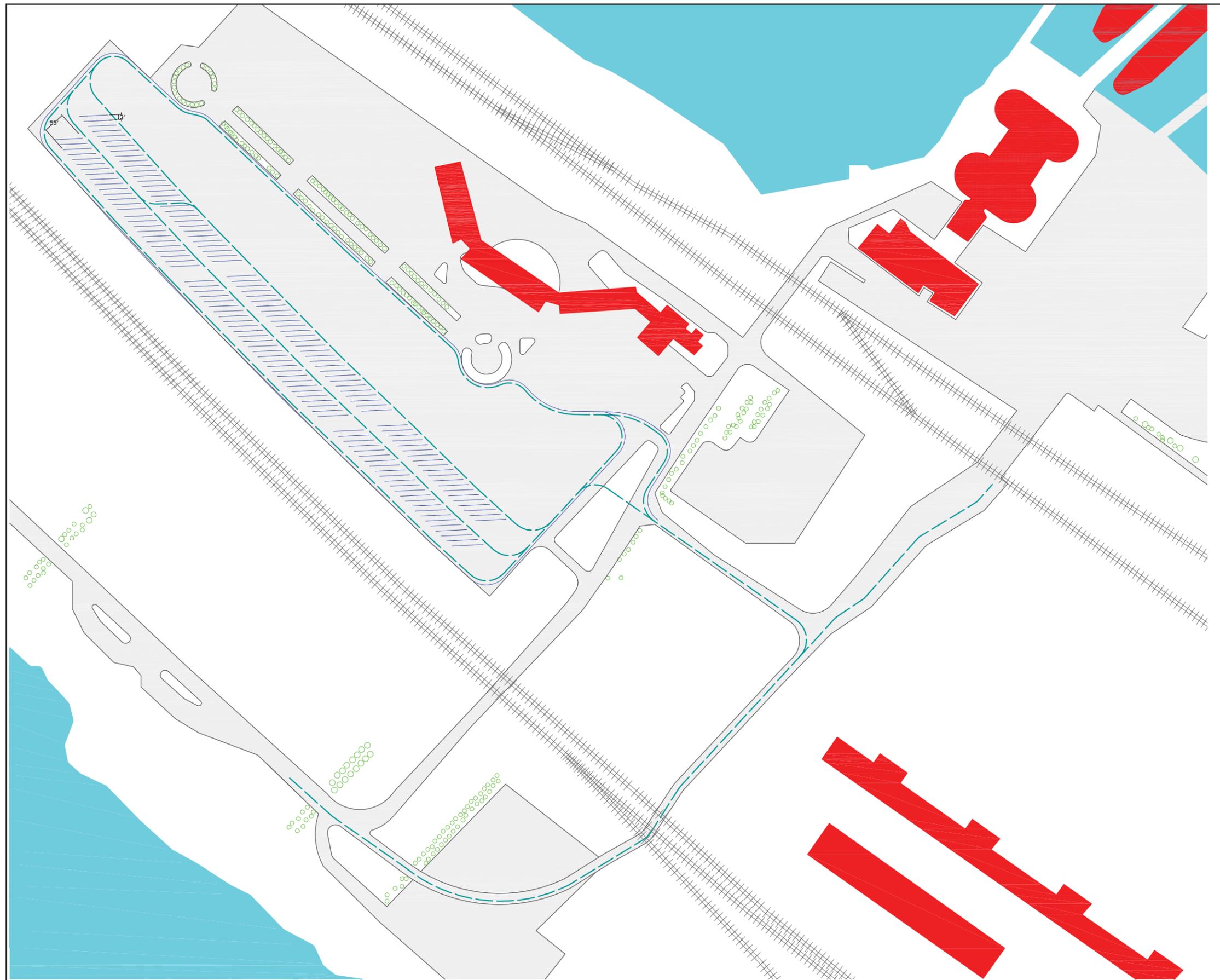
Casino

Peter Beltemacchi- Associate Dean/ COA
Laurence Rohter- Adjunct Professor/ CAEE Dept
Jac Selinsky- Student/ COA

March 26, 2008

This scheme is designed to use existing surplus parking area for a casino in Gary, IN. This solution is viable because it uses existing facilities, provides truckers with all their needs, and produces a product-based income for the owner, rather than simply charging parking fees.

-150 Spaces



-  Traffic Path
-  Parking Spaces
-  Buildings
-  Street

Figure 17

APPENDIX B: FORMAL TRUCK PARKING SPREADSHEET

Sheet1

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	ID,N,11,0	VIS,C,1	TNAT,C,1	TSC,C,1	STATE,C,2	LOCATION,C,16	LONG_X,N,12,8	LAT_Y,N,11,8	SIZE_X_FT,C,3	SIZE_Y_FT,C,4	SIZE_CALC_,C,4	TRUCK_SPAC,C,5	FACILITIES,C,24
2	703111558			X	IL	C	0	0			100		0
3	705151125			X	IL	Addison	-87.98	41.93	0	0	0	0	G
4	705151130			X	IL	Alsip	-87.74	41.66	0	0	0	0	G
5	705151135			X	IL	Belvidere	-88.84	42.25	nv	nv			nv
6	705151137			X	IL	Big Rock	-88.55	41.76	70	50	0.08	5	0
7	705151141			X	IL	Bloomington	-88.12	41.94	0	0	0	0	G DDTI huge ret. parkin
8	705151144		X	X	IL	Bolingbrook	-88.07	41.68	70	2290	3.68	229	G DDTI huge ret. parkin
9	705151152			X	IL	Burbank	-87.8	41.75	0	0	0	0	G
10	705151157			X	IL	Chicago	-87.69	41.85	0	0	0	0	G
11	705151159			X	IL	Chicago	-87.65	41.82	70	110	0.18	11	G
12	705151200			X	IL	Chicago	-87.67	41.82	70	480	0.77	48	G
13	705151202		X	X	IL	Chicago	-87.69	41.83	70	140	0.22	14	G
14	705150106		X	X	IL	Cicero	-87.76	41.81	0	0	0	0	NB
15	705150109		X	X	IL	Cicero	-87.74	41.83	0	0	0	0	NB
16	705150112		X	X	IL	Cicero	-87.74	41.81	0	0	0	0	0
17	705150115			X	IL	DeKalb	-88.74	41.91	NV	NV			NV
18	705150117	X		X	IL	DesPlaines	-87.93	42.02	70	640	1.03	64	G
19	705150119		X	X	IL	Dixon	-89.48	41.82	NV	NV			NV
20	705150121			X	IL	Dwight	-88.43	41.1	NV	NV			NV
21	705150122			X	IL	Dwight	-88.43	41.1	NV	NV			NV
22	705150346			X	IL	Elk Grove	-87.96	42	0	0	0	0	G
23	705150349			X	IL	Frankfort	-87.79	41.53	0	0	0	0	G
24	705150352			X	IL	Franklin Park	-87.88	41.92	?	?			G DDTI huge ret. parkin
25	705150356		X	X	IL	Hampshire	-88.51	42.15	70	900	1.45	90	0
26	705150357		X	X	IL	Hampshire	-88.51	42.15	70	970	1.56	97	0
27	705150358		X	X	IL	Hampshire	-88.51	42.15	70	270	0.43	27	0
28	705150405			X	IL	Kirkland	-88.86	42.1	NV	NV			NV
29	705150411	X	X	X	IL	Lake Forest	-87.9	42.25	70	700	1.12	70	0
30	705150412		X	X	IL	Lansing	-87.56	41.57	0	0	0	0	0
31	705150417			X	IL	Loves Park	-88.96	42.32	0	0	0	0	G
32	705150419		X	X	IL	Manteno	-87.88	41.25	70	190	0.31	19	G
33	705150442		X	X	IL	Minooka	-88.27	41.46	70	740	1.19	74	G DDTI NB
34	705150443		X	X	IL	Minooka	-88.27	41.46	0	0	0	0	G DDTI NB
35	705150458		X	X	IL	Mokena	-87.85	41.54	70	500	0.8	50	G
36	705150503		X	X	IL	Monee	-87.76	41.43	70	660	1.06	66	G
37	705150504		X	X	IL	Monee	-87.75	41.43	70	1760	2.83	176	G
38	705150509		X	X	IL	Morris	-88.42	41.39	70	2600	4.18	260	0
39	705150510			X	IL	Morris	-88.42	41.39	70	180	0.29	18	0
40	705150514			X	IL	Naperville	-88.2	41.68	0	0	0	0	G
41	705150517			X	IL	North Chicago	-87.88	42.31	0	0	0	0	NB
42	705150519			X	IL	Orangeville	-89.65	42.47	NV	NV			NV
43	705150521			X	IL	Ottawa	-88.78	41.38	NV	NV			NV
44	705150522		X	X	IL	Ottawa	-88.78	41.38	NV	NV			NV
45	705150525		X	X	IL	Plainfield	-88.17	41.59	70	2100	3.37	210	G
46	705150528			X	IL	Poplar Grove	-88.85	42.35	NV	NV			NV
47	705150530			X	IL	Princeton	-89.47	41.4	NV	NV			NV
48	705150533			X	IL	Rochelle	-89.02	41.93	NV	NV			NV

	A	B	C	D	E	F	G	H	I	J	K	L	M
49	705150534		X	X	IL	Rochelle	-89.02	41.93	NV	NV			NV
50	705150535			X	IL	Rochelle	-89.02	41.93	NV	NV			NV
51	705150536		X	X	IL	Rochelle	-89.07	41.92	NV	NV			NV
52	705150537		X	X	IL	Rockford	-89.08	42.33	0	0	0	0	G
53	705150544			X	IL	Rockford	-88.97	42.24	0	0	0	0	NB
54	705150549			X	IL	Rockford	-89.11	42.22	0	0	0	0	0
55	705150550			X	IL	Rockford	-89.11	42.22	?	?			0
56	705150556		X	X	IL	Rockford	-89.02	42.17	70	780	1.25	78	0
57	705150600			X	IL	Romeoville	-88.08	41.64	0	0	0	0	G DDTI NB
58	705160850			X	IL	Roscoe	-89	42.46	NV	NV			NV
59	705160855	X		X	IL	Russel	-87.95	42.49	70	750	1.21	75	0
60	705160856			X	IL	Russel	-87.95	42.49	70	3300	5.3	330	0
61	705160859		X	X	IL	South Beloit	-89	42.49	NV	NV			NV
62	705160900		X	X	IL	South Beloit	-89	42.49	NV	NV			NV
63	705160902	X	X	X	IL	South Holland	-87.58	41.6	70	660	1.06	66	G
64	705160907			X	IL	Sugar Grove	-88.44	41.73	70	70	0.11	7	0
65	705160908			X	IL	Sugar Grove	-88.44	41.77	0	0	0	0	0
66	705160909			X	IL	Tonica	-89.05	41.21	NV	NV			NV
67	705160912			X	IL	Wadsworth	-87.94	42.43	0	0	0	0	0
68	705160913			X	IL	Wadsworth	-87.95	42.47	0	0	0	0	NB
69	705160925			X	IL	Warrenville	-88.2	41.83	0	0	0	0	G
70	705160928		X	X	IL	Wilmington	-88.19	41.34	0	0	0	0	0
71	705160929		X	X	IL	Wilmington	-88.19	41.35	70	270	0.43	27	0
72	705160930			X	IL	Winnebago	-89.25	42.29	NV	NV			NV
73	705160931			X	IL	Winnebago	-89.24	42.27	NV	NV			NV
74	705160932			X	IL	Yorkville	-88.45	41.62	70	190	0.31	19	G
75	705160947			X	IN	Burns Harbor	-87.11	41.6	70	1650	2.65	165	G DDTI NB
76	705160952			X	IN	Demotte	-87.27	41.16	70	2150	3.46	215	0
77	705160956			X	IN	Dyer	-87.47	41.49	0	0	0	0	G DDTI huge ret. parkin
78	705161021			X	IN	Gary	-87.4	41.57	70	2655	4.27	265.5	0
79	705161022			X	IN	Gary	-87.4	41.57	70	3730	5.99	373	0
80	705161023			X	IN	Gary	-87.36	41.56	70	2330	3.74	233	0
81	705161024			X	IN	Gary	-87.35	41.56	70	4690	7.54	469	0
82	705161025			X	IN	Goshen	-85.8	41.56	70	230	0.37	23	0
83	705161029			X	IN	Grovertown	-86.5	41.37	70	1300	2.09	130	0
84	705161053			X	IN	Hamlet	-86.69	41.37	70	430	0.69	43	NB
85	705161100			X	IN	Hammond	-87.51	41.65	70	300	0.48	30	0
86	705161103			X	IN	Hammond	-87.51	41.63	0	0	0	0	G
87	705161108			X	IN	Highland	-87.47	41.57	70	130	0.21	13	G DDTI huge ret. parkin
88	705161118			X	IN	Hobart	-87.26	41.47	0	0	0	0	G DDTI huge ret. parkin
89	705161122			X	IN	Lake Station	-87.24	41.58	70	280	0.45	28	0
90	705161124			X	IN	Lake Station	-87.24	41.59	70	2950	4.74	295	0
91	705161125			X	IN	Lake Station	-87.24	41.59	70	650	1.04	65	0
92	705161126			X	IN	Lake Station	-87.24	41.59	70	2690	4.32	269	0
93	705161127			X	IN	Lake Station	-87.24	41.59	70	1550	2.49	155	0
94	705161138			X	IN	LaPaz	-86.31	41.45	70	220	0.35	22	G DDTI NB
95	705161142			X	IN	Michigan City	-86.89	41.65	70	870	1.4	87	0
96	705161144			X	IN	Michigan City	-86.8	41.69	70	220	0.35	22	0

Sheet1

	A	B	C	D	E	F	G	H	I	J	K	L	M
97	705161146			X	IN	Milford	-85.84	41.45	70	340	0.55	34	G
98	705161152			X	IN	Napanee	-85.99	41.44	0	0	0	0	G
99	705161156			X	IN	New Buffalo	-86.72	41.76	0	0	0	0	0
100	705161159			X	IN	Plymouth	-86.26	41.34	70	1050	1.69	105	0
101	705161202			X	IN	Portage	-87.22	41.59	70	800	1.29	80	0
102	705161203			X	IN	Portage	-87.22	41.59	70	1080	1.74	108	0
103	705161208			X	IN	Porter	-87.1	41.61	70	3070	4.93	307	NB
104	705161209			X	IN	Porter	-87.1	41.61	70	500	0.8	50	NB
105	705161211			X	IN	Rolling Prairie	-86.62	41.71	70	1070	1.72	107	0
106	705161212			X	IN	Rolling Prairie	-86.62	41.71	70	1070	1.72	107	0
107	705161217			X	IN	South Bend	-86.28	41.66	0	0	0	0	G
108	705161220			X	IN	South Bend	-86.34	41.73	70	640	1.03	64	0
109	705161222			X	IN	South Bend	-86.33	41.74	70	500	0.8	50	0
110	705161227			X	IN	Springville	-86.74	41.69	70	70	0.11	7	G DDTI NB
111	705161228			X	IN	Springville	-86.74	41.69	0	0	0	0	G DDTI NB
112	705161231			X	IN	Valpraiso	-87.04	41.46	0	0	0	0	G
113	705161233			X	IN	Wanatah	-86.82	41.43	70	320	0.51	32	0
114	705161237			X	IN	Westville	-86.9	41.54	70	175	0.28	17.5	0
115	705160137			X	WI	Barneveld	-89.43	42.72	NV	NV			NV
116	705160141			X	WI	Albany	-89.9	43.01	NV	NV			NV
117	705170917			X	WI	Beloit	-88.98	42.56	NV	NV			NV
118	705170920			X	WI	Beloit	-88.97	42.53	NV	NV			NV
119	705170921			X	WI	Beloit	-88.97	42.53	NV	NV			NV
120	705170951			X	WI	Bristol	-88.05	42.54	70	200	0.32	20	0
121	705170952			X	WI	Bristol	-88.05	42.57	70	140	0.22	14	0
122	705171007			X	WI	Columbus	-89.03	43.35	NV	NV			NV
123	705171009			X	WI	Cottage Grove	-89.2	43	NV	NV			NV
124	705171012			X	WI	DeForest	-89.34	43.2	0	0	0	0	0
125	705171013			X	WI	DeForest	-89.34	43.19	70	1880	3.02	188	0
126	705171014			X	WI	DeForest	-89.34	43.2	70	1560	2.51	156	0
127	705171017			X	WI	East Troy	-88.41	42.78	NV	NV			NV
128	705171018			X	WI	East Troy	-88.39	42.79	NV	NV			NV
129	705171022			X	WI	Edgerton	-89.06	42.87	NV	NV			NV
130	705171026			X	WI	Franklin	-88.04	42.89	70	240	0.39	24	G DDTI NB
131	705171032			X	WI	Hartland	-88.36	43.09	0	0	0	0	0
132	705171036			X	WI	Janesville	-88.99	42.73	NV	NV			NV
133	705171037			X	WI	Janesville	-88.99	42.73	NV	NV			NV
134	705171038			X	WI	Janesville	-88.98	42.67	NV	NV			NV
135	705171039			X	WI	Janesville	-88.98	42.64	NV	NV			NV
136	705171042			X	WI	Jefferson	-88.81	42.99	NV	NV			NV
137	705171044			X	WI	Johnson Creek	-88.76	43.09	NV	NV			NV
138	705171046			X	WI	Juda	-89.5	42.59	NV	NV			NV
139	705171049			X	WI	Kenosha	-87.88	42.59	0	0	0	0	G
140	705171051			X	WI	Lake Mills	-88.91	43.09	NV	NV			NV
141	705171053			X	WI	Lake Mills	-88.91	43.09	NV	NV			NV
142	705171057			X	WI	Madison	-89.27	43.04	0	0	0	0	0
143	705171104			X	WI	Milwaukee	-88.03	43.13	0	0	0	0	0
144	705171105			X	WI	Milwaukee	-88.06	43.12	0	0	0	0	G

Sheet1

	A	B	C	D	E	F	G	H	I	J	K	L	M
145	705171107			X	WI	Monticello	-89.63	42.82	0	0	0	0	G
146	705171109			X	WI	Mukwonago	-88.32	42.85	NV	NV			NV
147	705171115			X	WI	New Glarus	-89.64	42.82	NV	NV			NV
148	705171122			X	WI	Oak Creek	-87.94	42.87	70	1560	2.51	156	G
149	705171123			X	WI	Oak Creek	-87.94	42.87	70	1260	2.02	126	G
150	705171136			X	WI	Pleasant Prairie	-87.95	42.54	70	1880	3.02	188	G
151	705171139			X	WI	Portage	-89.47	43.57	NV	NV			NV
152	705171149			X	WI	Portage	-89.5	43.49	NV	NV			NV
153	705171151			X	WI	Poynette	-89.46	43.39	NV	NV			NV
154	705171154			X	WI	Racine	-87.95	42.73	70	700	1.12	70	0
155	705171155			X	WI	Racine	-87.95	42.72	70	3320	5.34	332	0
156	705171156			X	WI	Racine	-87.95	42.72	70	160	0.26	16	0
157	705171158			X	WI	Racine	-87.95	42.72	0	0	0	0	0
158	705171201			X	WI	Richfield	-88.2	43.28	NV	NV			NV
159	705171203			X	WI	Richfield	-88.17	43.24	70	700	1.12	70	0
160	705171210			X	WI	Somers	-87.95	42.64	70	70	0.11	7	0
161	705171216			X	WI	Sun Prairie	-89.2	43.18	NV	NV			NV
162	705171218			X	WI	Sussex	-88.21	43.11	0	0	0	0	G
163	705171220			X	WI	Thompsonville	-87.95	42.78	70	910	1.46	91	G DDTI NB
164	705171227			X	WI	Wales	-88.36	43.09	0	0	0	0	0
165	705171231			X	WI	Watertown	-88.73	43.2	NV	NV			NV
166	705171234			X	WI	Waukesha	-88.22	43.02	NV	NV			NV
167	705170131			X	WI	Waukesha	-88.19	43.03	0	0	0	0	G DDTI huge ret. parkin
168	705170141			X	WI	Whitewater	-88.71	42.83	NV	NV			NV
169	705170207			X	IL	McCook	-87.83	41.8	0	0	0	0	G DDTI huge ret. parkin
170	705230613	X			IL	Mendota	-89.06	41.56	NV	NV			NV
171	705230614	X			IL	Mendota	-89.06	41.56	NV	NV			NV
172	705241028	X			IL	Rockford	-88.96	42.27	NV	NV			NV
173	705241041	X			IL	Dwight	-88.43	41.09	NV	NV			NV
174	705241046	X			IL	Shorewood	-88.19	41.52	70	120	0.19	12	0
175	705241114	X			IL	Summitt	-87.8	41.79	0	0			0
176	705241152	X			IL	Ottawa	-88.78	41.37	NV	NV			NV
177	703260542	X			IL		-87.69	41.84	inv				0
178	703260545	X			IL		-87.7	41.83	inv				0
179	703260553	X			IL		-87.94	41.75	inv				0
180	703260558	X			IL		-88.07	41.68	0	0		0	0
181	703311109	X			IL		-87.76	41.42	inv				0
182	703311113	X			IL		-87.77	41.39	70	350	0.56	35	0
183	703311114	X			IL		-87.77	41.39	70	350	0.56	35	0
184	703311120	X			IL		-87.82	41.55	70	300	0.48	30	0
185	703311122	X			IL		-87.9	41.55	70	300	0.48	30	0
186	703311123	X			IL		-87.95	41.54	inv				0
187	703311124	X			IL		-87.95	41.54	inv				0
188	703311127	X			IL		-88.06	41.51	inv				0
189	703281012	X			IN		-87.52	41.7	70	110	0.18	11	0
190	703281016	X			IL		-87.51	41.65	inv				0
191	703281033	X			IL		-87.96	42.02	inv				0
192	703260606	X			IL		-87.95	42.5	70	140	0.22	14	0

Sheet1

	A	B	C	D	E	F	G	H	I	J	K	L	M
193	703260607	X			IL		-87.95	42.5	70	320	0.51	32	0
194	703281144	X			IL		-87.6	41.58	70	520	0.84	52	0
195	703281145	X			IL		-87.6	41.58	70	520	0.84	52	0
196	703281155	X			IL		-87.68	41.59	70	230	0.37	23	0
197	703291208	X			IL		-87.91	41.78	70	320	0.51	32	0
198	703291209	X			IL		-87.91	41.78	70	320	0.51	32	0
199	703291221	X			IL		-87.88	41.95	70	340	0.55	34	0
200	703291222	X			IL		-87.88	41.95	70	340	0.55	34	0
201	70311311150	X			IN		-87.47	41.49	inv				0
202	703260705	X			IL		-87.95	42.47	70	80	0.13	8	0
203	703260707	X			IL		-87.94	42.44	70	80	0.13	8	0
204	703260710	X			IL		-87.93	42.4	70	170	0.27	17	0
205	703260714	X			IL		-87.88	42.3	inv				0
206	703260745	X			IL		-87.74	41.85	0	0	0	0	0
207	703260750	X			IL		-87.74	41.75	inv				0
208	703260752	X			IL		-87.74	41.73	inv				0
209	703260755	X			IL		-87.74	41.67	inv				0
210	703260725	X			IL		-88.13	42.41	inv				0
211	703260728	X			IL		-88.15	42.39	inv				0
212	703260731	X			IL		-88.14	42.25	inv				0
213	703311145	X			IL		-87.58	41.54	inv				0
214	703311146	X			IL		-87.58	41.54	inv				0
215	705251107	X			IL		-88.97	42.24	70	140	0.22	14	0
216	705251252	X			IL		-87.95	42.46	70	50	0.08	5	0
217	705250114	X			IN		-86.73	41.41	70	440	0.71	44	0
218	705250118	X			IN		-86.31	41.45	70	170	0.27	17	0
219	705250152	X			WI		-88.04	42.89	70	340	0.55	34	0
220	705250209	X			WI		-87.96	42.73	70	3310	5.32	331	0

