The Burnham Transportation

Plan of Chicago:

100 Years Later

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ABSTRACT

In 1909, Daniel Burnham, internationally famous architect and planner, was the principal author of the *Plan of Chicago,* which made recommendations on how the city could grow and improve the quality of life for its residents in an orderly fashion. "…The time has come [for Chicago and other world cities] to bring order out of the chaos incident to rapid growth" (Burnham and Bennett 1909, 188). Many of Burnham's suggested solutions were carried out in some form or another, some very directly and others incidentally. For example, his boulevard and parks recommendations resulted in Michigan Avenue becoming a great boulevard, the double decking of Wacker Drive and the construction of Grant Park.

Eighteen pages of the 164 page *Plan* were devoted to Chapter V, "Transportation: A Freight Center: Grouping of Passenger Stations: A Loop System." The purpose of this paper is to examine and evaluate those freight and passenger transportation components contained in Chapter V of the plan.

To put the *Plan* in proper perspective, Chicago was one of the fastest-growing urban areas in the world during the 19th century. Its population grew from approximately 100 people in 1812 to 1.7 million in 1900. This is even more remarkable considering the Great Chicago Fire of 1871 destroyed more than 17,000 structures. The rapid growth resulted in congestion, chaos, poverty and air and water pollution (Young 1998). Burnham envisioned a city of organized beauty and efficiency similar to the "White City" he helped create as a part of the Columbian Exposition in Chicago in 1893, celebrating the anniversary of the discovery of America (Smith 2006).

The freight and passenger transportation recommendations in the *Plan* addressed such issues as freight congestion, consolidation of railroad passenger facilities, creation of freight loops, and elimination of rail grade crossings. Some of these recommendations resulted in immediate action plans. Others, like the consolidation of all intercity passenger trains, did not occur until 1971, when Amtrak consolidated all passenger service in Union Station. Some issues, like rail freight congestion, are still present in the region today.

While the freight and passenger transportation components of the *Plan* have mixed results, one can argue that the Chicago region's transportation system has benefited from the visionary planning by Burnham in the *Plan of Chicago*.

INTRODUCTION

A century ago, Daniel Burnham is attributed to having said: “Make no little plans. They have no magic to stir men’s blood.” A review of the freight and passenger recommendations contained in Chapter V yields mixed results. Yet, his major contribution to the region may well have been to provide the vision, advocacy, and leadership to attack very difficult transportation problems, some of which continue to exist to this day.

Freight transportation, specifically rail transportation, falls outside the realm and scope of planners for several reasons. First, in Daniel Burnham’s day, as it is today, rail freight was provided by privately owned companies which reported to stockholders, not government. Secondly, freight movements in Burnham’s day reflected national factors and trends, which fell outside the control of municipalities or regional planners. Today, freight movements are influenced by the global economy, and thus are even further removed from planners and their agencies. So in 1909, Burnham faced a difficult, if not impossible, task to persuade the private railroads of the time to implement a plan for the benefit of the city of Chicago and the entire metropolitan region. In other municipal areas such as parks and boulevards, which were controlled by local officials, many of his recommendations were successfully implemented. Some of his recommendations, such as consolidating passenger terminals and locating freight terminals outside the central area, had occurred over time as the result of market forces and not due to the recommendations of the *Plan.* And other recommendations, such as utilizing freight tunnels and terminal railroads, were already in use when the *Plan* was published. Finally, some issues such as freight congestion and delivery times are problems currently faced by the region without easy solutions.

What, then, were Burnham’s contributions to freight and passenger rail transportation in Chicago? First, he very thoroughly and factually identified the freight and passenger problems facing the Chicago region. Secondly, he provided general, common sense solutions to these problems with a realization that the details needed to be left to the professionals who best knew the business. He understood that what was best for the region may not be best for an individual railroad as he stated: “Each (railroad) must yield in some particulars in order to bring about the great end sought; but whatever concessions may be called for, they will be found insignificant when compared with the great gain which will result” (Burnham and Bennett 1909, 78). Finally, and most importantly, he provided leadership, advocacy and vision of the region’s future not experienced before or since the *Plan of Chicago* was released.

TRANSPORTATION

Chapter V of the Burnham *Plan* covered “Transportation: A Freight Center: Grouping of Passenger Stations: A Loop System” and addressed the rail freight and passenger service and the elevated, surface and subway transit systems. The chapter opens with the statement: “Chicago has been made largely by the railroads, and its future prosperity is

dependent upon them" (Burnham and Bennett 1909, 61). In 1909, Chicago was already the railroad hub of the nation, as it had been since the 1860s. By the turn of the century, 650 freight trains operated daily in the city (Young 2005). In 1996, 610 daily freight trains operated in the region. Between one-quarter to one-third of all the freight in the United States originates, terminates or operates through Chicago, maintaining its status of the rail hub of the nation (CATS 1998, McCarren 2000).

A FREIGHT SYSTEM

Congestion

In 1908, twenty-two railroads operated in the city of Chicago and the *Plan* acknowledged that the sheer number of railroads and the volume of freight resulted in delays and inefficiencies. This was seen as a significant problem while writing the *Plan*. On its Web site, the Encyclopedia of Chicago states that in 1908, the year before the *Plan* was released, Burnham called a meeting of representatives of all the Chicago railroads to discuss ways to reduce freight congestion and move trains more efficiently through the region. He understood that each railroad was concerned primarily with its own self-interest and competitive position, and that some method of coordination among the railroads was necessary for the betterment of the entire region and for the future of orderly growth.

Early growth of the rail freight system occurred in proximity to the downtown area with each railroad maintaining a relatively small yard. As the region and traffic grew, the area became congested and inefficient, which resulted in delays. While Burnham suggested a centralized clearinghouse of freight and a unified system of traffic handling, he saw the impracticality of such measures because each railroad owned its own separate facilities. He identified the problem, indicated the consequences to the region if solutions were not found and suggested "The fine arts of traffic management should be studied no less than the fine arts of parks and boulevards" (Burnham and Bennett 1909, 62), leaving it to the railroads to work out the problems amongst themselves. Further, he urged the individual railroads to improve their main lines, freight houses, and yards to be more efficient in order to reduce terminal costs and delay for the benefit of the entire region.

In hindsight, this did not work. Rail congestion has been an ever-present problem in the region and was only addressed in a formal manner with the Chicago Regional Environmental and Transportation Efficiency (CREATE) program that was announced in June 2003 (Gallagher 2004). The jointly-sponsored program by the Class I (large) railroads, Illinois Department of Transportation, Chicago Department of Transportation, Metra and the United States Department of Transportation funds infrastructure improvements to speed the movement of trains through the region. The CREATE program was facilitated by the deregulation of the rail industry and the mergers and consolidations that occurred since the 1970s. In the early 1970s, there were seven Class I railroads headquartered in Chicago (Wiewel and Persky 2002). Presently, there are only seven Class I railroads in the entire United States, none of them headquartered in Chicago. This consolidation made an agreement among the Class I railroads, Amtrak and

the Metra Commuter Lines less complex, and one that served all the participants well. Prior to CREATE, the Class I railroads, terminal railroads, Metra and Amtrak, formed a volunteer organization called the Chicago Transportation Coordination Office (CTCO). Each participant named an operating officer to be assigned to the Office to take whatever operating and communication activities to speed freight and reduce congestion in the region (Chicago Planning Group, 2004).

Much of what Burnham suggested took place, not as a result of the *Plan*, but because of market and exogenous forces. Prior to the Burnham *Plan*, the railroads had begun to locate larger yard facilities in the outer suburban area because of the availability of cheaper land. For example, a group of seven railroads built the Clearing Yard in Stickney in 1902 and the Chicago and North Western moved to a new facility in Proviso Township in 1903 (Young 2005). A threatened city tax on freight cars was also a motivating force for some railroads to seek suburban land for yard facilities, according to the Belt Railway Company of Chicago's Web site. In fact, the railroads reflected the ongoing decentralization from downtown, which began prior to the end of the 19th century and continued unabated for the next 100 years (Sööt et al. 1998). Burnham, in the realm of dealing with freight congestion, was more a visionary than he was a facilitator or problem solver, as evidenced by the fact that the rail freight problems of congestion and delay have been and continue to be a major problem in the Chicago region.

Goods Delivery

"No goods should be carried into or out of the congested business center except those needed for construction, for retailing, or for consumption in that territory" (Burnham and Bennett 1909, 63). The *Plan* identified "bridge traffic," that neither originated nor terminated in the downtown area as adding to congestion, dirt and smoke nuisance. Bridge traffic today, most notably container traffic, is seen as a factor adding to the region's congestion (DiJohn 2008).

Water Transportation

The *Plan* correctly stated; "A careful analysis of the entire freight traffic of Chicago shows that ninety-five percent, in and out, is done by the railroads, and only five percent is done by water" (Burnham and Bennett 1909, 64). The *Plan* suggested that docks be built at the mouth of the Chicago River for trans-loading. The *Plan* also suggested shifting water commerce to Lake Calumet and connecting to the downtown docks via a connection via the South Branch of the Chicago River. Ultimately, the rail freight facilities on the southern banks of the Chicago River were vacated, and in the 1960s this allowed the site to be developed for Grant and Millennium Parks and for commercial and residential development. Lake Calumet did become the port facility while the lakefront and Chicago River system are still used primarily for recreational boating instead of commerce. Burnham did not foresee the central business district shift from commerce to service, entertainment, residential and leisure.

Underground Freight Tunnels

The *Plan* called for the utilization "as far is it will go in carrying out a complete system of underground distribution" (Burnham and Bennett 1909, 66). In 1900, construction

began on an extensive 60-mile underground tunnel system that connected the central city with the freight houses, businesses and retailers that extended north, south and west of the downtown. The tunnels were also used to bury utility infrastructure. Passenger usage was prohibited in the tunnels. The system was utilized for distribution of freight into the 1930s, but major parts were sealed when the underground transit subway system began construction in 1939. Even before this, use of the tunnels for freight was declining as natural gas replaced coal for heating and motor trucks were more flexible and efficient than the underground electric railway. The tunnels were completely abandoned in 1959.

The all-but-forgotten tunnel network became a news item in April 1992 when 124 million gallons of Chicago River water poured through a crack in the tunnel and spread throughout the downtown area, flooding basements still connected to the old system. The damage was estimated at $1 billion (Reardon 1997). Burnham's vision of the freight tunnels lasted half a century, but their use declined because of various factors, including decentralization, the CTA subway system, changing technology and the efficiencies of surface transportation delivery.

Freight "Loops"

The Burnham *Plan* proposed a series of freight belt line "loops" called:

Inner Loop A, the existing Loop elevated transit,
Loop B, located on the near west side and connected to Loop A,
Loop C, along a corridor just east of Cicero Avenue, and
Loop D, in nearby suburban Cook County.

These belt lines were to be common facilities operated by all the railroads. The proposal was to improve efficiency of transportation and act as an attractor to manufacturers and warehouses where the transportation could accommodate all of the needs of the businesses. The Loops would also connect with the freight tunnels and the docks for transshipment with the water trade. It should be noted that Loops B, C and D are conceptual loops and their exact location is not detailed.

The Inner Loop A proposed to use the transit line for the purpose of moving freight between 1:00 and 7:00 in the morning when not in use for commuters. The goal was to have farmers bring produce to markets more efficiently and saving wear and tear on the street system from heavy wagons. The transit system was never utilized in this manner, with some exceptions where coal was delivered by freight engines on some transit tracks that were originally freight railroad tracks, and some use of interurban lines for delivery of newspapers.

Loop B was along the tracks of the former Baltimore & Ohio Chicago Terminal (B&OCT), a subsidiary of the Baltimore and Ohio Railroad, between Western and Sacramento Avenues on the near West side. The tracks were laid in 1886 and one year later consolidated by several terminal railroads to connect eastern and western rail lines. Loop B also provided a convenient connection to the downtown passenger terminal, Grand Central Station, which the railroad began utilizing in 1891. The freight tracks are currently in use as a part of the CSX Transportation System. The Grand Central Station

ceased use as a passenger terminal in 1969 and was demolished in 1970 (Reynolds and Oroszi 2000).

Loop C was generally along the right-of-way of the Belt Railway of Chicago (BRC), along a corridor just east of Cicero Avenue in Chicago and some nearby suburbs. The BRC was formed in 1882 to fulfill the need for a terminal railroad resulting from the growth of traffic outside the city limits of Chicago; it was co-owned initially by five railroads, expanding to twelve railroads in 1910. The BRC's website states that the huge Clearing Yard was built in suburban Stickney to avoid congestion and the higher city taxes. The railroad is still in operation today and is one of the largest terminal operators in the United States.

Loop D, an outer belt, was formed in 1898 as a switching road owned by other railroads to facilitate the transfer of freight in the ever-growing outlying suburbs. In 1907, it became the Indiana Harbor Belt (IHB), which operated in a north-south corridor between LaGrange and Franklin Park in suburban Cook County. On its website, the IHB states that today it is owned by three Class I railroads, and is used primarily as a common-use facility where three out of four trains are run-throughs by member railroads.

The Outer Loop, not mentioned by the Burnham *Plan*, is the Elgin, Joliet and Eastern Railway (EJ&E), an outer circumferential freight line 135 miles long connecting Gary, Indiana with Waukegan, Illinois at a distance roughly 30 to 35 miles from downtown Chicago. Although construction began in 1881, it did not reach Waukegan until 1890. The line is currently owned by U.S. Steel Corp. and its subsidiaries, and it originally carried steel products between its plants in Gary, Joliet and Waukegan (Blaszak 1989). While not specifically designed as a terminal road or a freight bypass, in 2007 the Canadian National Railway proposed purchasing the EJ&E to be used as a freight bypass to avoid terminal congestion in Chicago. The merger is currently under review by the Surface Transportation Board (Canadian National Railway 2007).

The *Plan* identified the terminal congestion problem and viewed coordination and cooperation among lines and the use of terminal railroads and joint facilities with trackage rights as a solution. The problem has persisted and current projects such as CREATE and the CN purchase of the EJ&E incorporate the goals outlined by Burnham.

Hours of Delivery

The *Plan* suggested downtown deliveries should be made overnight between the hours of 1 am and 7 am to relieve crowding on the streets, providing convenience to both producer and consumer, saving time and being more efficient. However, businesses needed to have deliveries during the operating hours convenient to the business. In some suburban areas, communities are considering regulation of overnight deliveries to take place in the daytime so as to limit noise during late evening and early morning hours. The issue of regulating delivery times continues to be the subject of debate in the Intermodal Advisory Task Force of the Chicago Metropolitan Agency for Planning with no easy solution in sight (Chicago Metropolitan Agency for Planning 2007).

Mail Service

Chapter V of the *Plan* devoted one paragraph to mail service. Two suggestions were made: First, a central post office should be a stand alone facility, separate from courthouses or other public buildings, which was not a practice at the time. Second, the location should be central, in reference to one another and to railway stations. The goal was "strict economy and quick collections and delivery" (Burnham and Bennett 1909, 76). At that time, the post office, which was built in 1905, was on the northwest corner of Jackson and Dearborn Streets. The new post office was constructed in 1921 on Canal Street between Van Buren and Harrison Streets, and at the time was the largest post office in the world (Olcott 1933). In 1997, the post office moved to a larger facility nearby on Harrison Street bounded by Canal, Polk Street and the South Branch of the Chicago River.

Twelve years after the *Plan* was published, the post office, a stand-alone facility, was built at the site of the two passenger stations proposed by Burnham. However, a review of the literature could find no reference to the *Plan* as the reason for locating the post office. It has remained vacant since 1997 and there have been discussions to develop the building into a hotel and/or casino.

A PASSENGER SYSTEM

Proposed Street Plan

The *Plan* envisioned a street plan of Chicago based on a system of grids, circuits and radials. These circuits, or loops, would facilitate the surface movement of goods and passengers. The downtown circuit was composed of Michigan Avenue, 16th Street, Canal and Kinzie Streets, with the center being Congress Parkway (now the Eisenhower Expressway). A second, broader circuit was proposed, bounded by Michigan Avenue, 22nd Street (Cermak), Ashland and Chicago Avenues. This larger loop allowed for continued growth and expansion beyond the downtown central business district, reflecting the outward decentralization of the central city (Sööt et al. 1998). The centerline of the proposed system was at the intersection of Congress Parkway and Halsted Street, which was proposed to contain the city's government center. City Hall never located there and the site later became the eastern boundary of the University of Illinois Circle Campus, now University of Illinois at Chicago, which opened in 1965 (Office of the UIC Historian 2006). The intersection of Congress and Halsted is currently the site of the CTA Blue Line UIC-Halsted Station.

The conceptual center of the metropolitan area became State and Madison, not Congress and Halsted. The city tended to develop more to the north than to the south. Only in later years did the south Loop and the area from Roosevelt between Cermak Roads become developed. The *Plan* properly envisioned outward growth from the commercial center, but it tended to occur more to the north than south, and later in the century.

Passenger Surface Lines, Elevated and Subways

The *Plan* envisioned the railroad and traction systems to follow the system of grids and circuits contained in the street plan. The proposed passenger subway circuit was slightly smaller than the street circuit, using Twelfth Street (now Roosevelt Road) instead of Sixteenth Street, and Washington instead of Kinzie. According to the *Plan*, "By means of these circuits a complete system of distribution of passengers and freight may be secured" (Burnham and Bennett 1909, 68).

The surface lines (streetcars) followed the grid pattern, but the circuits, other than the Loop elevated System, were never constructed. The surface lines began as horse-drawn omnibuses, then cable cars that were ultimately replaced with electrified trolley lines around 1900. The last cable cars operated in 1893 to the Columbian Exposition on the south side (Young 1998). In 1914, the traction systems were unified under the Chicago Surface Lines. Expansion of the system occurred, mostly as extensions of existing lines, although two new systems were built, one on the far south side and one in 1933 to the site of the World's Fair on the lakefront between 16th and 22nd Streets. Many of the streetcar lines were replaced with motorbuses because they were seen as more efficient and flexible than the streetcars (Krambles 1993). Finally, in 1958, the last street car operated in the city of Chicago (Reardon 1997).

The Loop elevated system, known as the "el", was constructed in 1893 to avoid the surface street congestion (Young 1998). The *Plan* proposed expanding the Loop el to Canal Street, the site of the proposed passenger railroad terminal. Several proposals were made in subsequent years to extend service beyond the Loop, the latest being the proposed West Loop Transportation Center and the CTA Circle Line. Both are contained in the current Regional Transportation Plan. The West Loop Transportation Center would connect rapid transit by a subway under Clinton Street that would serve Union and Ogilvie stations, connecting with Metra commuter lines and Amtrak. The Circle Line, a circumferential line connecting all of the CTA and Metra radial lines on the near west side along Ashland Avenue, has been approved for evaluation in the current federal transportation authorization (Chicago Metropolitan Agency for Planning 2008).

Similar to the surface lines, consolidation of rapid transit lines occurred. There were six companies operating to the north, northwest, west, south and in the downtown Loop elevated in 1900. In 1924 they were consolidated into the Chicago Rapid Transit Company and in 1945 were consolidated with the Surface Lines under the Metropolitan Transportation Act, which formed the Chicago Transit Authority. In 1948, the Chicago Motor Coach Company also became part of the CTA system (Krambles 1993).

Passenger subways were proposed in the *Plan* as circuits circling the downtown and were debated in city council, but the first subway did not begin construction until 1939 under State Street on the Howard-Jackson-Englewood (now CTA Red Line). Subway operations began in 1943 and the Dearborn Street subway (now CTA Blue Line) began in 1951 (Young 1998).

In 1970, the Chicago Urban Transportation District (CUTD) was formed to replace the Loop elevated system with a distributor subway system and for an east-west line under the heart of the Loop that would serve as a circulator. The project was abandoned in 1979 due to escalating cost and lack of funding. Similarly, a light rail circulator project was proposed on downtown streets between the west Loop commuter rail stations and Michigan Avenue connecting with a north-south line between McCormick Place and North Michigan Avenue. The proposed circulator never got beyond the planning stage and was cancelled in 1995 due to lack of federal funding (Young 1998).

Elimination of Rail Grade Crossings

The *Plan* stated "lines entering the densely inhabited parts of the city should not cross each other or carriage roads at grade. Much has already been done, and much more is proposed to eliminate grade crossings" (Burnham and Bennett 1909, 68-69). Beginning in 1892, the City Council approved an ordinance requiring the Illinois Central Railroad to elevate its tracks above street level. Over the next two decades, ordinances required other rail lines to elevate their tracks. It was considered a success, as fatalities were reduced from 99 in 1899 to only 20 in 1908 (Young 2005).

Beautification and the Environment

The *Plan* would have Chicago emulate European cities where "railroads have taken great pains to beautify their rights-of-way. Cleanliness and pleasing treatment of the roadways, the embankments, the drainage channels, the fences, the yards, and the stations, large and small, insure better service on the part of the railroad employees, while the appearance of the city is immensely improved thereby" (Burnham and Bennett 1909, 70). Burnham further states; "A delightful station conduces to cheerfulness as a man goes to work and comes home, while a shabby or neglected station produces the opposite effect" (Burnham and Bennett 1909, 78). One might argue today that railroad rights-of-way, viaducts, fences and yards could use a sprucing up.

Burnham believed that a poor environment lead to poor efficiency. "Noises, ugly sights, ill smells, as well as dirty streets and workshops or offices tend to lower average efficiency…moreover, citizens have a pride in and loyalty to a city that is quiet, clean and generally beautiful" (Burnham and Bennett 1909, 74-76). Today, Chicago prides itself on being a "green" city and its logo is "City in a Garden." Certainly, Burnham has had an influence on Chicago's beauty and environment.

Passenger Terminals

At the time the *Plan* was written, there were six passenger stations in Chicago handling approximately 1,300 daily commuter and intercity trains carrying 180,000 daily passengers (Young 2005). The goal of the *Plan* was to consolidate and simplify the passenger terminals into two locations -- one between Canal and Clinton Streets from Lake Street to 12th Street, and a terminal along 12th Street between State Street and the South Branch of the Chicago River. The terminals were to be connected to the series of grid and circuit streets, street railways, elevated lines and subways making "circulation of greater ease." A second goal of consolidation was to clear the central business district of the terminals so as to attract business and industry to the downtown area. The railroad

tracks were proposed to be either above ground or below to avoid congestion and conflict at street level. The report does not go into detail of the roadways or routings, stating the suggestions “seem to be the natural and logical ones,” leaving details to be developed by professionals.

Beautification and noise mitigation were also emphasized. “A million Chicago people who habitually use railway facilities will possess a higher average of good citizenship when the irritation of nerves is reduced to the minimum, and within a few years most of the waking hours of a million Americans will be spent in the business center of Chicago, where unpleasant sights and sounds should be abolished. The community will get far more out of its million workers when their nerves cease to be wracked by irritating conditions” (Burnham and Bennett 1909, 74).

Today there are four major passenger terminals in Chicago: Millennium (Metra Electric), Ogilvie, Union and LaSalle Street Stations. Dearborn and Grand Central Stations have been razed. According to the Regional Transportation Authority’s Web site, Metra’s system currently carries about 300,000 riders on an average weekday using 700 trains. All intercity Amtrak trains now use Union Station. To a certain extent, the *Plan* has influenced passenger facilities, as Union and Ogilvie Stations are sited in the original corridor suggested by Burnham, with Union Station tracks below grade and Ogilvie above grade.

SUMMARY

Burnham’s *Plan of Chicago* transportation component has had mixed results. His greatest influence was the plan for consolidating passenger terminals in the west Loop along Canal Street, the current location of both Union and Ogilvie Stations. In the area of freight, he recognized major problems and attempted to influence the freight railroads to put aside individual interests for the betterment of the region. The use of outlying freight yards, terminal railroads, and freight tunnels were already in existence, and their use was more determined by market forces than recommendations from the Plan. It is the authors’ view that Burnham’s major contribution in the area of freight and passenger transportation was defining the problems and providing the leadership, vision, and advocacy to address them.

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