



FROM A STREET TO A PLACE

Redesigning Lincoln Avenue as a Shared Space

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ABSTRACT

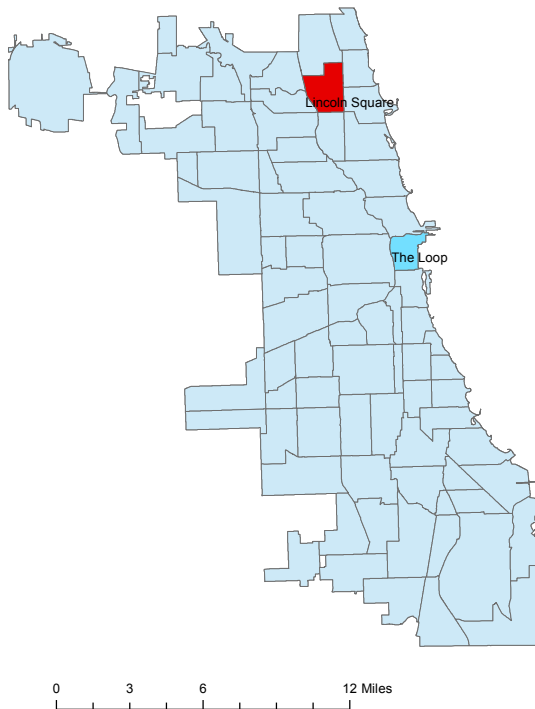
This report examines the potential for Lincoln Avenue, between Wilson Avenue and Lawrence Avenue, to be redesigned into a shared space. Traffic engineering has long treated pedestrians and cyclists as lower on the modal hierarchy, but there is potential for this particular stretch of Lincoln Avenue in the Lincoln Square community area in Chicago, Illinois to pave the way for a new way of planning; to treat the pedestrian and cyclist as someone who is *experiencing* the city, not simply moving from point A to point B. Shared spaces treat the automobile, pedestrian, and cyclist as equals by removing demarcations, raising the street to the sidewalk level, and removing curbs. Additional measures to slow traffic speeds and enhance the streetscape are important for a successful shared space. This report will examine the history and existing conditions of Lincoln Avenue in Lincoln Square. It will then describe what exactly a shared space is and what the potential benefits are by examining some case studies from around the world. Another aspect of the report includes the potential for Transit Oriented Development adjacent to the Western Brown Line station, which would work in tandem with the shared space to allow pedestrians, cyclists, and drivers the opportunity to experience Lincoln Avenue, not as simply just a street, but as a *place*.



Entrance of Lincoln Square "mall" at Leland Avenue. Source: Shannon Antinori, 2015

Approximately six and a half miles northwest of the Chicago Loop lay the community area Lincoln Square. The community consists largely of residential land uses, however there are multiple commercial stretches, with the main one existing along Lincoln Avenue. Lincoln Square is generally considered a very pedestrian friendly area, and this is highlighted by the fact that Lincoln Avenue from Berteau Avenue to Montrose Avenue and then again from Sunnyside Avenue to Lawrence Avenue is designated by the City of Chicago as a “retail pedestrian street”. While the pedestrian environment is friendlier than most other areas in Chicago, there is still opportunity for improvement, particularly from Wilson Avenue to Lawrence Avenue. This stretch of Lincoln Avenue is the heart of the Lincoln Square community, and while it’s a thriving street, it has the potential to be a more vibrant mixed-use street that puts pedestrians and cyclists on the same hierarchical level as automobiles; and embraces Transit Oriented Development. Lincoln Square can be an example for the rest of Chicago, by ushering a new era of planning for pedestrians, cyclists, and automobiles, to ultimately create a higher standard of living. It is also in a position to experiment with street designs that have been successful in other parts of the world, because the neighborhood already has a fairly distinct European feel.

I am proposing redesigning Lincoln Avenue from Wilson Avenue to Lawrence Avenue as a “shared space”, and recommending filling in two surface parking lots near the Western Brown Line CTA station with Transit Oriented Development.



Lincoln Square within context of Chicago.
Source: Frank Kryzak, 2015

HISTORY

Lincoln Square was founded in the 1800's when farmers settled a large swath of prairie land. Eventually the area gathered the reputation for mass production of flowers, pickles, and celery.¹ By the early 1900's the area experienced rapid growth, with the construction of the Ravenswood elevated train line (now the CTA Brown Line) in 1907. Chicago annexed the area in the 1920's as it was home to a thriving district full of locally owned hotels, banks, and retail stores, but by World War II the commercial district along Lincoln Avenue was in decline. In response to the growing number of commercial vacancies, the Lincoln Square Chamber of Commerce, founded in 1949, began promoting the community's commercial identity. In 1978 the one-way-street Lincoln Square "mall" was created which required a controversial rerouting of local traffic. Formerly Lincoln Avenue met Lawrence Avenue less than a block east of the intersection of Western Avenue and Lawrence Avenue. The City decided to reroute Lincoln Avenue traffic down Leland Avenue to Western Avenue, and then north along Western Avenue through the intersection of Western Avenue and Lawrence Avenue. Lincoln Avenue was turned into a one-way street from Leland Avenue to Lawrence Avenue, and diagonal parking was installed, along with an addition of a plaza at Giddings Street. Land was also cleared in the area for parking for merchants and, initially, for commuters using Western CTA station.² The street redesign has been criticized throughout the years by local merchants and residents; however, although its affect has not been quantified, the area is once again a thriving commercial district and a very desirable place to eat, shop, and live.

¹ <http://www.encyclopedia.chicagohistory.org/pages/747.html>

² <http://greaterrockwell.org/History/DawsonNeighborhoodHistory.html>

SOME FACTS & FIGURES ³

Lincoln Square Population (2013) **38,667**

Total Households **17,666**

Median Age **35.3**

Totals for four census tracts surrounding or containing study area

Percentage of residents who take public transit to work **37.4 %**

Percentage of residents who walk to work **6.9 %**

Percentage of residents who work at home **7.1 %**

Percentage of residents who don't own a vehicle **16%**

Totals for Chicago

Percentage of residents who take public transit to work **26.7%**

Percentage of residents who walk to work **6.6%**

Percentage of residents who work from home **4.3**

Percentage of residents who don't own a vehicle **15.9%**

³ Source: 2013 American Community Survey, 5 Year Population Estimates



Kempf Plaza. Source: Tara Kennedy

I conducted a study using Geographic Information Systems in the summer of 2015 in which I ranked 12 pedestrian retail streets in Chicago according to their suitability for being redesigned into a shared space. My goal was to determine what retail pedestrian streets have the best potential for being redesigned as a shared space. The following describes how the study was conducted:

1. I visualized any CTA rail stations within a quarter mile of the pedestrian street, if there was one then the street was awarded 1 point, and the same for each subsequent CTA station within a quarter mile. I then determined low, medium, and high ridership for the CTA stations. Low equaled less than 1 million annual riders, medium equaled 1 -2 million annual riders, high equaled greater than 2 million annual riders. Streets with low ridership were assigned no points, streets with medium ridership were assigned half a point, and streets with high ridership received 1 point.
2. I then determined how mixed the land use is within 1 tenth of a mile around the streets. If the percentage of “commercial mixed use” plus “commercial mixed use with residential” land use was under 20% it was worth one point, 20%-30% was worth 2 points, and greater than 30% was worth 3 points.
3. For average annual daily traffic, if the street has more than 12,000 cars it was awarded no points, if it has between 10,000 and 12,000 cars it was awarded 1.5 points, and if it has less than 10,000 cars it was awarded 3 points. *If the data wasn’t available because the Illinois Department of Transportation (IDOT) didn’t conduct a traffic count on it, it received zero points as well. This category was weighted more heavily because it is very important for the friendliness of the pedestrian environment to have relatively low traffic counts.
4. I then determined the number of people who live within a half-mile of the street. Using that information, I calculated the density per square mile. Fewer than 30,000 per square mile received half a point, between 30,000 and 40,000 per square mile received 1 point, and over 40,000 per square mile received 1.5 points.

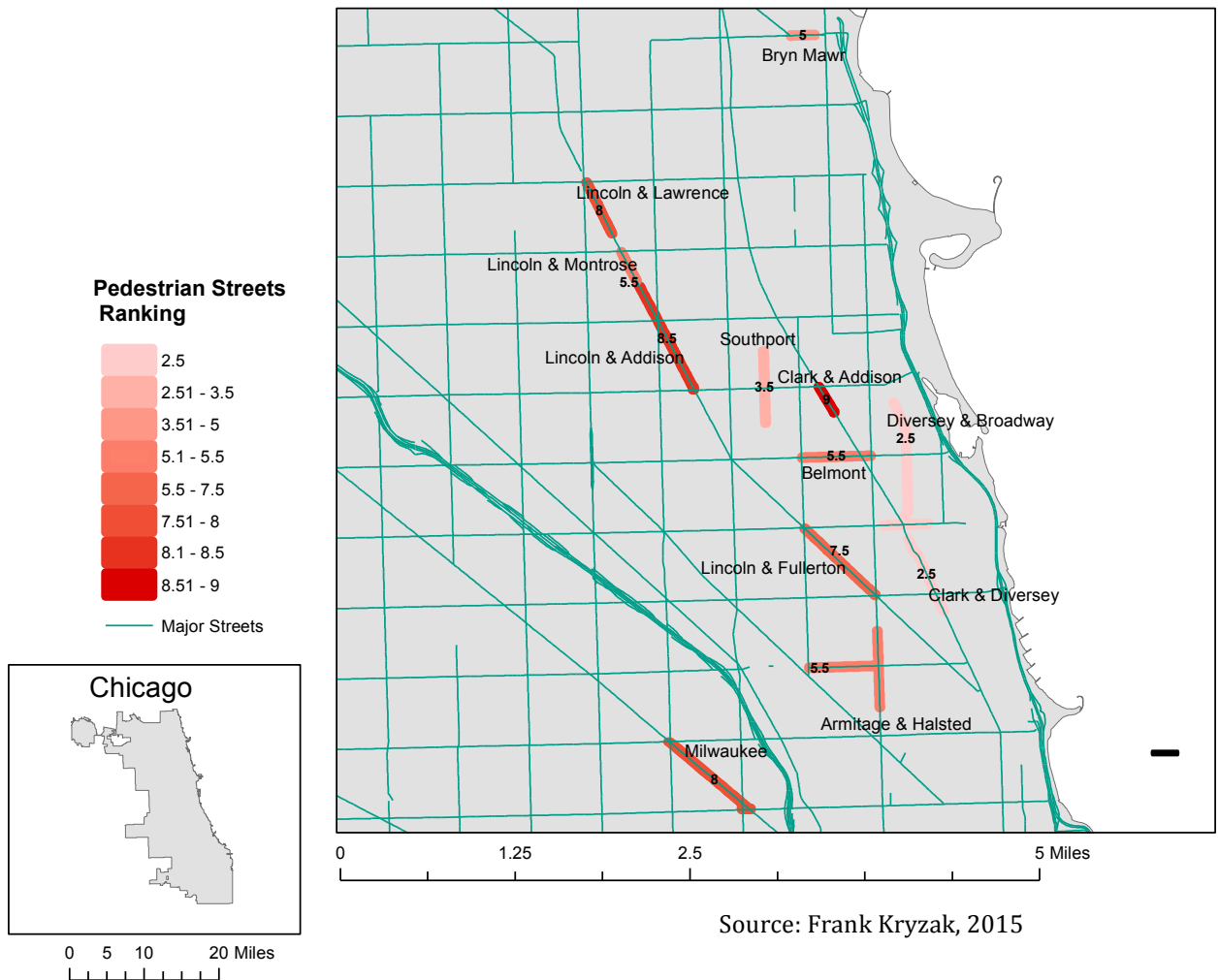
The best pedestrian streets for shared street redesign would score high marks for the previously listed criteria. Therefore, all retail pedestrian streets would be sufficient candidates for a shared street, so I was particularly interested in quantifying which ones would be the *best* in Chicago using my ranking system.

According to the results of my study, Lincoln Avenue between Wilson Avenue and Lawrence Avenue is tied for 3rd best retail pedestrian street for a shared space redesign. That, coupled with the fact that Lincoln Avenue between Leland Avenue and Lawrence Avenue is already a relatively pedestrian friendly environment and there is no traffic data for that stretch (it can be assumed that it is relatively low because of its one-way nature), means that Lincoln Avenue between Wilson Avenue and Lawrence Avenue is appropriate for a shared space redesign.

Suitability Index for Redesigning Pedestrian Streets to Shared Spaces

Pedestrian Street	CTA Station within .25/ mile	Annual Ridership	% of Commercial Mixed Land Use	Daily Traffic	Population Density (per square mile)	Total Points
Clark & Addison	Addison- Red	High	High	Low	Medium	9
Lincoln & Addison	Addison- Brown	Low	Medium	Low	High	8.5
	Irving Park- Brown	Low				
Lincoln & Lawrence	Western- Brown	Medium	Medium	Low	High	8
Milwaukee	Damen- Blue	High	High	High	Medium	8
	Division- Blue	High				
Lincoln & Fullerton	Fullerton- Red/Brown/Purple	High	Low	Medium	High	7.5
	Diversey- Brown	Medium				
Lincoln & Montrose	No	N/A	Low	Low	High	5.5
Belmont	Belmont- Red/Brown/Purple	High	Medium	High	High	5.5
Armitage & Halsted	North and Clybourn- Red	High	Low	High	Medium	5.5
	Armitage- Brown	Medium				
Bryn Mawr	Bryn Mawr- Red	Low	High	High	Medium	5
Southport	Southport- Brown	Medium	Low	N/A	Medium	3.5
Clark & Diversey	No	N/A	Medium	High	Low	2.5
Diversey & Broadway	No	N/A	Medium	High	Low	2.5

Pedestrian Streets Ranked by Suitability for Shared Street Redesign, from Lowest to Highest



Land Use Mix

Mix of use is a crucial factor in a walking friendly neighborhood, as a mixture of land uses provides more potential destinations such as shops and services for walking. However, the type and quality of destinations also influence pedestrian levels in ways that vary between different groups. The following is from a study conducted by the University of West England, Bristol, and Cavill Associates:⁴

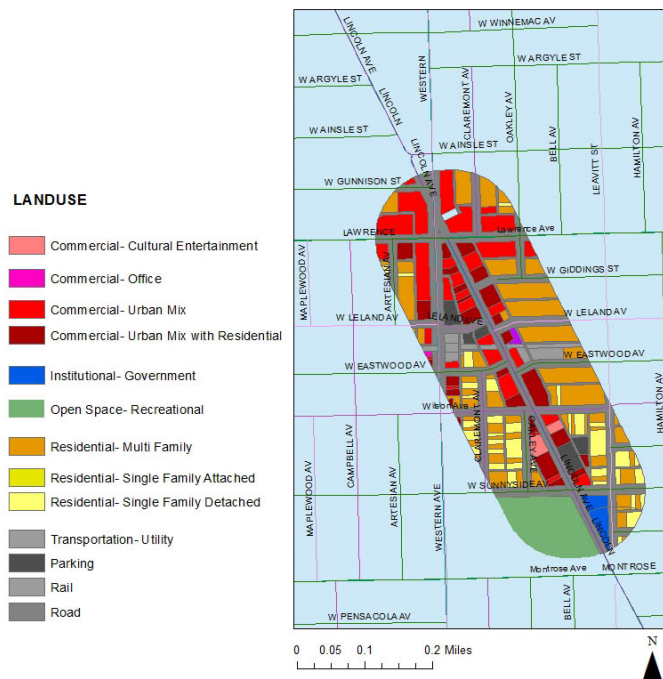
- In England, women are 28% more likely to report not walking regularly if they felt that the local shops were not convenient.
- Living close to parks and open spaces also corresponds with greater levels of walking; men in England and adults in Australia are around twice as likely to walk the recommended amount if they had better access to parks and open space and parks were the most commonly walked to destination in a study in the United States.

⁴[http://www.livingstreets.org.uk/sites/default/files/file_attach/Making%20the%20case%20full%20report%20\(web\).pdf](http://www.livingstreets.org.uk/sites/default/files/file_attach/Making%20the%20case%20full%20report%20(web).pdf)

•In Scotland, those who felt their parks and open spaces were of good quality were 27% more likely to meet the recommended level of walking and those who liked the facilities in their neighborhood were 25% more likely to meet the recommendations through transport walking alone. However, those who felt the convenience of services in their neighborhood was low or medium compared with high were between 10 and 20% less likely to meet these recommended levels of walking.

The studies that have examined the relationship between urban form and walking have determined that mixed land use has the strongest and most consistent relationship with walking. However, mix of use, density and connectivity are all important factors and in many ways they work in tandem to create a pedestrian friendly environment.

Lincoln Avenue Surrounding Land Use



Mixed land uses along Lincoln Avenue. Source: Frank Kryzak, 2015

Average Annual Daily Traffic (AADT)

One of the most important and more favorable aspects about the stretch of Lincoln Avenue between Sunnyside Avenue and Lawrence Avenue is that the annual average daily traffic is 9,900 automobiles (it can be assumed the stretch between Leland Avenue and Lawrence Avenue is even less, however there is no data for that specific block). Regardless, this is less than other major thoroughfares in the area, and when coupled with the fact that the AADT number provided by the Illinois Department of Transportation does not represent the one-way portion of Lincoln Avenue, the low level of automobile traffic provides great potential for making the street friendlier for pedestrians and cyclists.

CTA Rail Service

Another favorable aspect is that the street is in very close proximity to the CTA Western Brown Line, which according to the CTA's 2013 annual report has the fourth highest Brown line weekday ridership

outside of the Loop (4,238); third highest per Saturday (3,123); and tied for second highest per Sunday (2,060).⁵

Current On-Street Parking

The one-way stretch of Lincoln Avenue currently holds 58 diagonal parking spots. The portion of Lincoln Avenue from Wilson Avenue to Leland Avenue has approximately 45 parallel parking spots. Currently the parking space between Wilson and Leland are not fully utilized because there are no demarcations and there is an excess of wasted space.

Pedestrian Activity

In June 2015 I conducted pedestrian counts with the help from some volunteers. The three areas counted were the intersection of Lawrence Avenue and Western Avenue, Leland Avenue and Western Avenue, and a mid-block count on Lincoln Avenue next to Kempf plaza. The counts were conducted from 5-7 pm on Tuesday through Thursday, and then from 12-2 pm on Saturday. The following were the findings:

Lawrence Avenue and Western Avenue: 731 pedestrians per hour

Leland Avenue and Western Avenue: 708 pedestrians per hour

Lincoln Avenue mid-block: 1,140 pedestrians per hour

Why Lincoln has good potential: Triangulation

Triangulation is one of the Project for Public Spaces' 11 Principles for successful neighborhood placemaking. It increases the chances of activity occurring around combined land uses. For example, in Lincoln Square, the library is located adjacent to Welles Park, which has a softball field, playground and food vendors, and is within walking distance of restaurants, the Davis Theatre and the Old Town School of Folk Music. This clustering ensures more activity will occur than if these places existed separately.⁶

What is a pedestrian street?

The retail pedestrian street designation by the City of Chicago seeks to preserve and enhance the character of streets and intersections that are recognized as Chicago's best examples of pedestrian-oriented shopping districts. There are regulations that are intended to promote transit, economic vitality and pedestrian safety and comfort.

Pedestrian streets exhibit most or all of the following characteristics: They have a high concentration of existing stores and restaurants; abut a street with a right-of-way of 80 feet or less; have a continuous or mostly continuous pattern of buildings that are built abutting or very close to

⁵ http://www.transitchicago.com/assets/1/ridership_reports/2013-Annual.pdf

⁶ http://www.placemakingchicago.com/cmsfiles/placemaking_guide.pdf

the sidewalk; have doors and entrances abutting the sidewalk have many storefront windows abutting the sidewalk; and have very few vacant stores.⁷

Some things to consider because Lincoln Avenue is designated as a pedestrian street

The following requirements pertain to the study area because it is designated as a pedestrian street by the City of Chicago. These requirements are from the City of Chicago pedestrian street ordinance:

1. A minimum of 60% of the street- facing building façade, between 4 feet and 10 feet in height, must be comprised of clear, non-reflective windows that allow views of indoor commercial space or product display areas. This standard applies to building façades that face pedestrian streets.
2. The bottom of any window or product display window used to satisfy this requirement may not be more than 4.5 feet above the adjacent sidewalk.
3. Product display windows used to satisfy these requirements must have a minimum height of 4 feet and be internally lighted.
4. On lots abutting pedestrian streets, buildings must have a primary entrance door facing the pedestrian street. Entrances at building corners facing a pedestrian street may be used to satisfy this requirement.
5. Building entrances may include doors to individual shops or businesses, lobby entrances, entrances to pedestrian-oriented plazas or courtyard entrances to a cluster of shops or businesses.
6. No off-street parking is required for nonresidential uses on lots abutting pedestrian streets unless such uses exceed 10,000 square feet of gross floor area, in which case off-street parking must be provided for the floor area in excess of 10,000 square feet.
7. All off-street parking spaces must be enclosed or located to the rear of the principal building and not be visible from the right-of-way of a pedestrian street.
8. Vehicle access to lots located along pedestrian streets must come from an alley. No curb cuts or driveways are allowed from a pedestrian street.

⁷ <http://chicagocode.org/17-3-0500>

The following uses are expressly prohibited on lots abutting pedestrian streets:


1. Strip centers
2. Drive-through facilities
3. Vehicle sales and service uses involving any outdoor storage of vehicles or goods
4. Gas stations
5. Car washes
6. Residential storage warehouses

The following uses are encouraged on lots abutting pedestrian streets:

1. Sidewalk cafes and outdoor eating areas; and
2. Outdoor display of produce flowers and plants.



The pedestrian street ordinance encourages sidewalk cafes in Chicago. Source: 10bestmedia.com



CH. 3 WHAT IS A SHARED SPACE?

Example of shared space. Source: waikatoindependent.co.nz

Traffic engineering and legislation have drastically altered public spaces for the past half-century or so. This has been meant to improve safety and traffic flow, and as the automobile became ever more prevalent, this type of auto-centric planning was at the cost of the quality of the public spaces and the living environment of people. The public realm has become less of an extension of home life, and consequently, there has been a secession of “ownership” and lack of accountability for these spaces. Public space is now widely seen as a place for automobiles, while pedestrians and cyclists are lower in the modal hierarchy of the right-of-way.

In contrast to this, shared spaces strive to combine rather than separate the various functions of public spaces. Shared spaces generally consist of the raising of a street to the height of the sidewalk, and making the public right-of-way into one continuous zone for all users, instead of segregating them with curbs, signage, etc. By doing this, the quality of public spaces will be improved, and responsible behavior hopefully will be evoked. Shared spaces rely on information from the surroundings to guide road users' conduct, instead of forcing them to strictly obey traffic rules and signs.⁸

Without clear sidewalks and streets, people are less certain, and that could actually be a good thing, contrary to common belief. If someone desires to walk across a shared space, they do not have to passively obey signs or crossing lights. As a result, traffic slows down and people in automobiles look more carefully, and everyone is actively engaged in navigating the public right-of-way.

The result is that traffic moves through urban space at an appropriately human pace that promotes accessibility for all users. It makes life a little more difficult, perhaps, for those driving automobiles whose desire is to merely use the street as a means to travel to some other destination. However, it would make sense that most people driving cars in order to patronize a local business will generally accept sharing space with all users. Also, during the colder months the space will most likely be less populated with pedestrians and cyclists. It can be assumed that much of the traffic on this particular portion of Lincoln Avenue is short-distance traffic, or is on the first or last “mile” of a longer trip, or is circling for a parking spot. Such traffic does not need high speeds. In fact, a slower environment is more appropriate for access movement.⁹ The pace of traffic will result in a pace that makes people more comfortable and the environment more pleasant. At the same time, delivery, emergency and other vehicles can use the space as well, with everyone actively engaged in navigating the public right-of-way; it is reasonable to expect people to give emergency and delivery vehicles a clear path when necessary.

Shared space can be a great solution on streets that attract people – or would attract people, if they were better designed, such as downtown or neighborhood shopping streets. By making people directly responsible for the safety of their fellow people, shared space can actually improve safety.¹⁰ The same applies for cyclists; protected bicycle lanes are a fantastic idea, especially for roads with a

⁸ <http://newmobilityagenda.blogspot.com/2009/06/sharing-knowledge-on-shared-space.html>

⁹ <http://www.lta.gov.sg/ltaacademy/doc/IS02-p32%20Public%20Space%20Dividend.pdf>

¹⁰ <http://usa.streetsblog.org/2014/11/17/shared-space-the-case-for-a-little-healthy-chaos-on-city-streets/>

high volume of automobile traffic or major thoroughfares, but shared spaces are ideal for cyclists who wish to linger in a lively space with shops, restaurants, and entertainment.

Proper design and the use of various materials are important for a successful shared space. Colored paving can guide the eye, and also variations in the color of the street can give an idea as to where cars do and do not belong, without rigidly segregating uses. Narrowing the space where people can drive vehicles will result in slower speeds, as does the use of permeable or unit pavers.

Why a shared space?

The physical character of streets has the capacity to have a positive or negative impact on businesses that line them. Creating a shared space for pedestrians, bicyclists, and automobiles in the public right-of-way can improve street safety, increase access to open space, add additional seating, cultivate community and culture, increase property values, and encourage people to linger and patronize local businesses. Streets are important real estate for commerce as well. They play host to sidewalk vending, outdoor cafes, and street festivals. They define the city's identity and celebrate the diversity of many of its neighborhoods. Careful and thoughtful design of the public right-of-way adds value to the city and the local business community.¹¹

Residents and business owners can benefit from a street that gives equal priority to automobiles, cyclists, and pedestrians, even when that means that a portion of parking will be removed. There is a common conception that every parking space in front of a business means a customer for that business. However, that is not actually the case, especially if parking is free or inexpensive the parked car's owner may feel reluctant to move from the space for as long as they desire, reducing the number of cars that will park and patronize the business.

Key Factors

One of the most important factors for creating a successful shared space is using methods to induce or encourage low traffic speeds. There is a critical qualitative change in the use and quality of public space at speeds around 20 miles per hour. This qualitative change appears to be linked to the physical characteristics of the human body, and to our ability to communicate through gestures and eye contact at velocities below the maximum human running speed. This realization has important implications for the development of speed policies and engineering assumptions for traffic in mixed-use space.

A further intriguing finding emerging from shared space experiments is the apparent reduction in delays and congestion, and improvements in travel times, associated with lower speeds. This has significant implications for traffic policy and for the design of streets and intersections. It would appear

¹¹ Chicago Forward: Department of Transportation Action Agenda (p. 82).

that the reduction in dependency on signals and formal traffic controls could improve capacity and movement for all modes and users, due to greater efficiencies at intersections. Streets and public spaces have always served a wide range of functions, in particular transportation and movement along the provisional space for human exchange, interaction, trade and social contact, and even recreation. One of the key aims of shared spaces is to develop new ways to reconcile these functions, and especially to increase the potential for human interaction and civility. It appears that the facility for encouraging informal, day-to-day social exchanges and “lingering” amongst people are critical to safety.¹² They also appear to be relevant to social cohesion. In a way, shared space can be looked at as a way for the community to “take back the streets”.

Another View of Pedestrians

In 2012, the Department of Roads and Mobility in Paris, France began implementing an initiative named Paris Piéton (Pedestrian Paris).

The aim of the program is to consider the pedestrian not just as someone who is moving from one point to another, but as a person who is experiencing the city.

Paris Piéton began by collecting data on what pedestrians want, and found that Parisians had four main sets of expectations:

1. Comfortable spaces to walk
2. More welcoming spaces, for example benches on which to rest
3. More greenery
4. More water, for example fountains

These findings have been used to guide new initiatives for public spaces across the city, based on the general idea of fully taking into account the experiential needs of people walking in the city. This, needless to say, is diametrically opposite to the to past Paris city administrations (and to current administrations in many other cities around the world) who view such problems exclusively through the lens of traffic engineering.¹³

What about Bicycles?

Another reason why a shared space may be appropriate for Lincoln Avenue is due to bicycle safety. Currently, there are many bicycle accidents involving cars, and the typical solution of putting a bicycle lane in between traffic and parking lanes is problematic, particularly considering the safety of the bicyclist. The City of Chicago recently published a bicycle crash analysis report and one of the

¹² http://www.fietsberaad.nl/library/repository/bestanden/Def.Final_Evaation31_okt.pdf

¹³ <http://www.pps.org/blog/taking-the-next-step-paris-leads-with-innovation-in-the-streets/>

findings is that there is a bicycle crash “hot spot” along Lincoln Avenue, between Wilson Avenue and Lawrence Avenue.¹⁴

Non-Intersection Crashes, 2005-2010

Street	From	To	Length (miles)	Crashes per Mile
Milwaukee	North	Division	0.7	70.1
Clark	Racine	Fullerton	1.6	48.6
Milwaukee	Fullerton	Armitage	0.7	48.1
Halsted	Diversey	North	1.5	29.9
Damen	North	Chicago	1.0	27.8
Lawrence	Ashland	Sheridan	0.8	25.2
Ashland	Belmont	Fullerton	1.0	15.9
Lincoln	Lawrence	Irving Park	1.1	14.9

Source: City of Chicago

Additionally, the table above shows that Lincoln Avenue ranks near the top regarding bicycle crashes, particularly crashes that are non-intersection related. This is quite important to consider when looking at the study area of Lincoln between Wilson and Lawrence, because it represents half of the area referenced in the table (from Lawrence to Irving Park). “A main goal of the bicycle crash report is to institute traffic calming techniques to slow speeds at severe crash locations. In the report it also states “vehicle speed has been shown to be a key factor nationally in crash severity and that 40 percent of crashes in Chicago occurred due to a vehicle’s failure to yield. By designing streets for slower speeds, crash injuries and fatalities can be reduced.”¹⁵ This is a particularly intriguing point because that is the exact aim of a shared space- to slow down traffic and create an environment where people are engaged and aware of all users and modes and where the traffic moves at a human pace. This can certainly bode well for attempting to reduce bicycle crashes and, overall, create a safer environment for all users.

Why Make Investments in the Pedestrian Environment?

The study conducted by the University of West England, Bristol, and Cavill Associates previously cited, reviewed what is known about the value of public investment in the pedestrian environment. Value (in currency) of transportation investments is usually considered through cost-benefit analysis, where an attempt is made to consider all of the direct and indirect, private and social monetary costs

¹⁴ http://www.cityofchicago.org/city/en/depts/cdot/supp_info/2012_bicycle_crashanalysis.html

¹⁵ http://www.cityofchicago.org/city/en/depts/cdot/supp_info/2012_bicycle_crashanalysis.html

and benefits of investment. It may also be considered by cost effectiveness analysis, which assesses the cost of different options in achieving a specific objective. The study found that investment in the pedestrian environment could potentially bring about a wide range of beneficial impacts, including the following:

1. Improved user experience (often referred to as 'journey ambience')
2. Reduced road collisions
3. Reduced congestion, fuel and other costs
4. Reduced noise and air pollution
5. Reduced carbon dioxide emissions
6. Health benefits from a more physically active population
7. Greater accessibility to facilities and services
8. Increased social capital
9. Increased economic activity
10. Reduced public costs of providing transportation infrastructure and services

The benefits identified above can be applied to 'users' (walkers, residents, visitors) of the enhanced environment (e.g. user experience); other individuals and businesses (e.g. reduced congestion); government (reduced infrastructure costs or reduced costs to the health service) or wider society (reduced greenhouse gases). Some of the benefits are very dependent on the number of users (improved user experience, health benefits) while others are dependent on the level of reduced traffic achieved (congestion, pollution, carbon dioxide emissions). A benefit not listed above is increased property values and investment surrounding the improved pedestrian area.¹⁶

¹⁶ [http://www.livingstreets.org.uk/sites/default/files/file_attach/Making%20the%20case%20full%20report%20\(web\).pdf](http://www.livingstreets.org.uk/sites/default/files/file_attach/Making%20the%20case%20full%20report%20(web).pdf)

CH. 4 CASE STUDIES



Shared Space- New Road, Brighton. Source: Gehl Architects

AUCKLAND, NEW ZEALAND



Fort Street before shared space redesign. Source: Auckland Design Office, Auckland Council



Fort Street after shared space redesign. Source: Auckland Design Office, Auckland Council

A study was conducted evaluating the effects of a shared space in the Fort Street area in Auckland, New Zealand. Users and key stakeholders in the area were surveyed about the upgrade. A clear majority was positive about the improvements:¹⁷

How people rated the upgrade

Pleasant, relaxed, attractive	80%
Very easy to walk along	64%
People have greater priority than cars	81%
Delays don't affect business	100%
Would visit more often	49%
Value owning property in close proximity	75%
Feel safer in the area now	80%

The study showed that foot traffic in the shared space area has increased since the redesign. Comparing the pre shared space (2008) and shared space (2011) pedestrian counts at key locations during peak hours revealed a significant increase in pedestrian numbers throughout the area. Over 4,800 pedestrians were recorded during peak hours (morning, midday and afternoon) in 2008. This increased to over 7,390 in an identical count taken after the shared spaces were opened in 2011. At midday Fort Street recorded peak flows of up to 3,700 people per hour. Pedestrian numbers increased by over 50% during peak hours.

A 140% increase in pedestrian volumes was recorded in the Fort Lane shared space during peak hours, when compared to 2009 figures. This included a significant 235% increase in usage during the afternoon peak (3pm–6pm). Over 4,500 pedestrians now use Fort Lane per day. An additional 1,600 pedestrian movements were recorded in Jean Batten Place during peak hours –a 243% increase on the 2008 level. However, nearby private construction work at the time is likely to have suppressed pedestrian numbers in the initial 2008 count. Therefore, the large increase to 2011 levels should be viewed within that context.

Other shared spaces show similarly positive trends. For example, pedestrians using the Darby Street shared space increased by 32% on an average weekday and 59% on an average Saturday, when compared to pre-construction counts from 2009. The shared space on Lorne Street outside the Auckland Library showed a weekday increase of 8% and a 51% increase on a typical Saturday. Users' perceptions of the Fort Street area shared space were also positive. People rated user-friendliness higher after the upgrade, and 64% said that walking along Fort Street was now very easy, compared with only 34%.

Economic Effects

Consumer spending data for the area suggests spending volumes have increased steadily from 2009 to June 2012, after the shared space was created. Comparing spending levels in the first half of 2012 with the same period in previous years suggests an increase in the volume of money spent in the area since the shared space environment was introduced. Significant growth in consumer spending in

¹⁷<http://www.aucklandcouncil.govt.nz/EN/planspoliciesprojects/plansstrategies/ccmp/Documents/fortstareaevaluationexecsummary.pdf>

the hospitality sector is evident from analysis of data for BNZ credit and debit card data, which also indicates that the area is attracting greater spending levels from those living in suburbs further from the Central Business District. Moreover, the positive public perception of the area is a likely early indicator of improved economic performance over time.

Consumer Spending (January-June) 2009-2012 – From Paymark Eftpost Activity

	Time Period (Jan-June)	Total Spent (Paymark)	% change from previous year
Pre Shared Space	2009	\$4,211,304	N/A
Pre Shared Space	2010	\$4,767,987	13%
Construction Period	2011	\$5,507,237	15%
Post Shared Space	2012	\$6,988,452	22%

Source: Auckland Council

Notes: Construction activity took place between November 2010 and August 2011. Paymark data covers approximately 75% of the eftpost activity within the area.

Other general economic information shows that around \$29.7 million and \$31.1 million was spent in the Queen Street valley area (excludes the Fort Street area) in 2010 and 2011 respectively, compared to about \$61 million annual spend in the CBD for 2010 and 2011.

Consumer Spending (January-June) 2009-2012- From BNZ Credit/Debit Card Activity

	Time Period (Jan-June)	Total Spent (BNZ data)	% change from previous year
Pre Shared Space	2009	\$445,957	N/A
Pre Shared Space	2010	\$774,934	74%
Construction Period	2011	\$896,485	15%
Post Shared Space	2012	\$1,758,164	96%

Source: Auckland Council

Note: Construction activity took place between November 2010 and August 2011

Retail & Hospitality Sector Spending 2009-2012 BNZ Credit/Debit Card Activity

Column1	By 1st Half Year Only (Jan-June)	Retail Spent	Hospitality Spent
Pre Shared Space	2009	\$218,814	\$192,861
Pre Shared Space	2010	\$511,808	\$210,064
Construction Period	2011	\$501,535	\$341,492
Post Shared Space	2012	\$595,703	\$1,112,216

Source: Auckland Council

Note: Construction activity took place between November 2010 and August 2011

Key Finding: Although the data will need to further be collected to get a bigger sample size, the early data for Auckland suggests that creating a shared space can have positive economic benefits by increased spending by people.

NEW ROAD, BRIGHTON

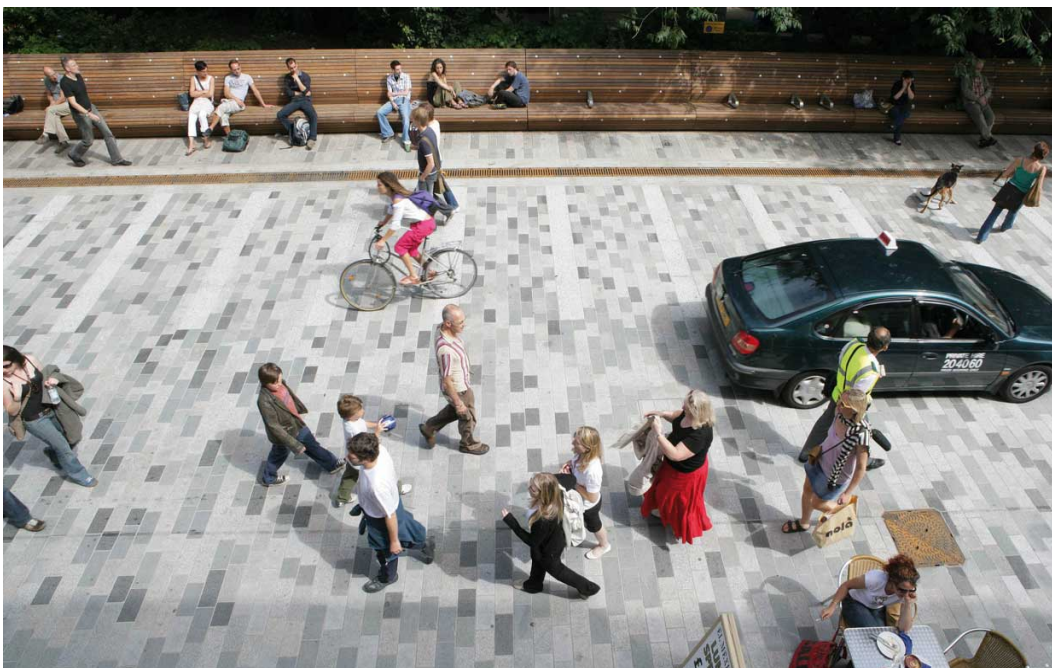
New Road, Brighton



Photo: C&H Architects



Photo: C&H Architects



New Road is a vibrant commercial street with bars, restaurants, shops, a library and two theaters. Gehl Architects, Landscape Project and Stockley worked with Brighton and the Hove City Council to redesign the road and create a shared space with high quality granite paving across the whole area. The use of a tactile strip of paving has ensured that the visually impaired are able to negotiate the space in safety. The area has been de-cluttered with road markings and signs all but removed. This has resulted in a pedestrian friendly environment without the need to apply formal restrictions to motor traffic. Seating and lighting have been used to ensure the space is attractive to travel through and for people to linger. The objectives of the redesign were to enable the street to fulfill its potential as a *place*. The total cost was 1.75 million pounds.

According to “Making the Case for Investment in the Walking Environment: A review of the Evidence” by the University of the West of England, Bristol, and Cavill Associates the shared space at New Road has created an environment that is vibrant and welcoming. It has won numerous awards for urban design, including awards from the Civic Trust and Landscape Institute. It has received overwhelming public support from both users and local businesses. Local restaurants and bars have invested in tables and chairs for outside their premises, enhancing the lively and social atmosphere. Local businesses feel that the shared space has improved the sense of community in the area, improving the perception of the road and the businesses on it by providing a better environment for customers.¹⁸

New Road In figures:

- 162% increase in pedestrian activity
- 93% reduction in traffic volume
- 600% increase in sedentary activities
- Reduction in traffic collisions from 3 in 2004 to 2006 to zero since completion in 2007
- Almost 100% of those questioned said they thought New Road was ‘good’, with 95% giving a score of above five (on a scale of -10 to 10) and nearly 50% a score of 9-10
- Almost 100% of those questioned said they would like to see more schemes like New Road, with around 90% giving a score of above five (on a scale of -10 to 10) and around 65% a score of 9-10
- Research participants from the business community unanimously agreed that the scheme had benefited their business
- New Road is now the 4th most popular place to spend time in Brighton

Key Finding: Converting a street to a shared space can catalyze a substantial increase in pedestrian activity.

¹⁸http://www.livingstreets.org.uk/sites/default/files/file_attach/Making%20the%20case%20full%20report%20%28web%29.pdf

DRACHTEN, THE NETHERLANDS



Shared space in Drachten, the Netherlands. Source: Fietsberaad

A busy junction in the town of Drachten in the Netherlands was comprised of traffic signals, multiple car, bus and cycle lanes, pedestrian crossings and the associated signs and road markings; the typical streetscape. The junction was unattractive to users, characterized by traffic congestion and a poor safety record. The street was transformed into a shared space through the creation of a public square with water features and lighting, the replacement of traffic lights with a central roundabout and the use of informal pedestrian crossings and very limited road markings. The objectives of the redesign were to create a high quality public space on a busy junction through the reduction of traffic congestion and improvement of traffic safety.

Traffic collisions decreased from 8.3 per year in the period from 1994 to 2002 to 1 per year in 2004 and 2005, after the redesign. Delays for vehicles and pedestrians have decreased by around 20 seconds, despite a 30% increase in traffic volume. Generally, public perception for the shared space is good; the feeling is that users are behaving more safely and spatial quality have improved and those rating congestion as bad has decreased from 66% to 5%.¹⁹

Key Finding: Converting a street to a shared space can induce a safer environment for all users because everyone is almost forced to look out for their fellow people.

¹⁹http://www.livingstreets.org.uk/sites/default/files/file_attach/Making%20the%20case%20full%20report%20%28web%29.pdf

BELL STREET, SEATTLE



Shared street in Seattle. Source: SRV Design

SVR Design led the urban design and engineering of the Bell Street Park in the Belltown neighborhood in Seattle, where a single-purpose right-of-way has been transformed into a vibrant, safe and green public space. When high land values limited the potential for park acquisition, community leaders and city departments turned to the underutilized public right-of-way to create a multifunctional open space.

Bell Street Park is a hybrid of park activities and street functions. It gives an outdoor living room to residents of Seattle's densest neighborhood while allowing automobile, bus, bicycle and emergency vehicle access. A subtle topographic shift raises the roadway up to the sidewalk level to create a curb-less and continuous surface. Street and park materials are woven into a wall-to-wall tapestry of shared space with meandering paving, planting and seating forming a unifying "circuitry" for the park. SVR recently worked with the Friends of Bell Street Park, through a DON Neighborhood Matching Grant, to develop an art & activation plan to engage their neighbors, local business owners and city staff in activating the park. The Plan establishes a shared vision for park activation along Bell

Street and translates community priorities into a tangible work plan that will enliven the Park over the next five years.²⁰

Key Finding: Shared space can be an economically viable option to create a destination public area when other options may be too expensive.

²⁰ <http://www.svrdesign.com/bellstreetpark/3kc9z7bczoje8jv5ov6ljbcf7dcnif>

CAMBRIDGE, MASSACHUSETTS



Shared space in Cambridge, Massachusetts. Source: Christopher O'Keefe

The City of Cambridge converted Harvard Square's Winthrop Street into a shared space in 2007, and Palmer Street shortly after. Previously, each travel mode was segregated and had a designated space, and the street was cramped and poorly maintained. Conversion to a shared space allowed for more efficient use of space on a small street, accommodating pedestrians, bicyclists, outdoor diners and automobiles. Shared spaces in Cambridge have transformed the public right-of-way, integrating and balancing commercial uses, street performers, restaurant activity, and transportation into an aesthetically pleasing design.

Prior to the project, Winthrop Street had narrow sidewalks and uneven pavers that created an inhospitable environment for pedestrians. Furthermore, the street failed to meet accessibility standards of the Americans with Disabilities Act (ADA). With traffic volumes under 1,000 average daily vehicles but high pedestrian traffic, the street already implicitly functioned as a shared street; the City's project formalized it. Cambridge used standard color, interlocking concrete pavers, which facilitated easy maintenance. On Palmer Street, the use of in-ground lighting has proven more challenging to maintain. Similarly, bollards installed to protect buildings on Palmer Street have suffered some wear-and-tear from truck traffic.

In Cambridge, property owners are responsible for removing snow from sidewalks, and the City removes snow from the street. After conversion to a shared space, these delineations are less stark. In Harvard Square, property owners have proactively taken on the additional snow removal responsibilities, but shared residential streets may prove more challenging. Stormwater management is also a consideration, because removing a curb changes runoff flows. To prevent puddling near buildings, shared streets in Cambridge grade towards a small gully in the center of the road.

Multiple government departments have worked collaboratively to realize Cambridge's shared streets. The Community Development Department managed the design process and community involvement through a citizen advisory committee. Public Works is responsible for reviewing the project design regarding long-term maintenance and accessibility issues. The Traffic, Parking and Transportation Department oversees traffic and parking regulations, ensuring that deliveries are still feasible. Champions at the Harvard Square Business Association, the Harvard Square Design Committee, and the Historic Commission have also contributed to the success of the shared streets.²¹



Shared space in Cambridge. Source: Cara Seiderman

Key Finding: Multiple government departments as well as citizens can collaborate together to design and operate a shared space, and to ultimately, take ownership of it as a public asset.

²¹ <http://nacto.org/case-study/cambridge-shared-streets/>



CH. 5 STREETScape ELEMENTS TO CONSIDER

Kempf Plaza in Lincoln Square, Chicago. Source: Frank Kryzak, 2015

The following chapter consists of excerpts from the Chicago Department of Transportation Streetscape guidelines that should inform the design of the shared space ²²

Under the City of Chicago Zoning and Landscape Ordinances, developers of new buildings and major rehabilitation projects are required to include improvements in the public way (usually the sidewalks immediately adjacent to the property being developed) as part of the project. This is a wonderful example of public/private cooperation that improves the livability and beauty of the City for everyone. The issue of maintenance, however, is no less important in these cases as it is when the City itself makes improvements in the public way.

The Element Line:

When various streetscape elements are repeated over a typical block, the streetscape creates a particular rhythm depending on the use, arrangement, and emphasis of different elements. For any given typical block, there are many potential options for arranging elements. This string of elements is loosely arranged around an element line, an artificial line that generally runs parallel to the street curbing. This element line doesn't necessarily correspond to the centerlines of the individual elements.

Lighting:

Set the centerline of fixtures at least 36" from face of curb, or in the case of a shared space where the color of the paving changes to suggest parking areas in between infiltration planters. Spacing between light poles should be a function of lighting levels and rhythm with other objects in the element line such as planters, trees, and parking meters. When these elements are linked together dimensionally, their arrangements can be logically laid out on the block. Typical Street lights waste up to 60% of their energy by illuminating skies and sides, so completing sodium-to-halide conversions can save energy.

Trees:

Where space is limited, it is advised to plant trees in tree grates, 4' x 6' or 5' x 5' in size. In wider sidewalks, the ideal tree grate installation has a band of sidewalk (typically 1'-3' wide, depending on the width of the sidewalk) between the curb and the tree grate. This creates an extra setback for the trees that minimizes conflicts with parked cars. This is still significant for a shared space, the differentiation between the colored paving between the parking/ infiltration planter lane should act as a "curb" (even though there is no curb).

²² http://www.cityofchicago.org/dam/city/depts/cdot/Streetscape_Design_Guidelines.pdf



Desirable Tree Grate for Shared Space. Source: thefridaycyclotouriste.com

Shy Zones:

Another useful concept developed is the “shy zone”. When a pedestrian walks alongside a storefront, the pedestrian instinctively maintains a distance, or shy zone, from the storefront. The shy zone occurs around all objects within a streetscape. It also occurs at the curb line where pedestrians instinctively stay away from curbs unless waiting to cross into parking spaces or crosswalks. Objects placed in the streetscape actually consume more space than their true physical dimensions due to this shy zone effect. As the number of pedestrians increase, the net pedestrian space gets more crowded, impacting the personal space of individual pedestrians. To accommodate this compression, pedestrians will encroach into the shy zone areas in an effort to maneuver along the streetscape. Although a pedestrian can physically traverse the streetscape in this situation, attention is on safe passage rather than enjoying the streetscape or window-shopping.

Since the overall goal in the streetscape design is to create an environment in which pedestrians feel comfortable and to entice them to return, the shy zone effect must be carefully considered in the design process. The space available between the curb line, element line, and building face helps to determine what form the major streetscape elements can take within the streetscape. Balance of elements and breaches in the element line must also be accommodated. Therefore, narrow spaces have more limitations on the scale and size of streetscape elements that can be accommodated and

this is compounded by the shy zone effect. More opportunities with a greater level of service are possible as the space widens.

Infiltration Planters:

Infiltration planters (also referred to as bio retention planters) are planted depressions designed to collect and absorb stormwater runoff from nearby paved surfaces like streets and sidewalks. They combine engineered stormwater control and treatment with aesthetic landscaping. Depending on soil conditions, they can be designed to remove pollutants from stormwater using biological processes, slow the movement of stormwater through the landscape, and/or allow the water to seep into the soils below.

If the native soils beneath the infiltration planters are free of soil or groundwater contamination and porous enough to absorb the rainwater quickly, then infiltration planters can be designed to allow the water to percolate or *infiltrate* into the soils below. If infiltration is *not* feasible, they can be designed as flow-through systems that collect the water in temporarily pools before filtering and releasing it slowly into the sewer system. Storing the water onsite in an infiltration planter during heavy storms frees up capacity in the combined sewer system when it's most needed. Infiltration planters can also be used to capture rooftop runoff from disconnected downspouts. Because they can be effective even in small installations, infiltration planters are appropriate in constrained locations where other stormwater facilities are not possible.²³

Benefits

- Easy and inexpensive to install.
- Wide range of scales and site applicability.
- Reduces runoff volume where infiltration is feasible and attenuates peak flows.
- Improves water quality.
- Increases effective permeable surfaces in highly urbanized areas.
- Creates habitat and increases biodiversity in the city.
- Provides aesthetic amenity.
- Facilitates groundwater recharge (infiltration-based systems only).
- Facilitates evapotranspiration.

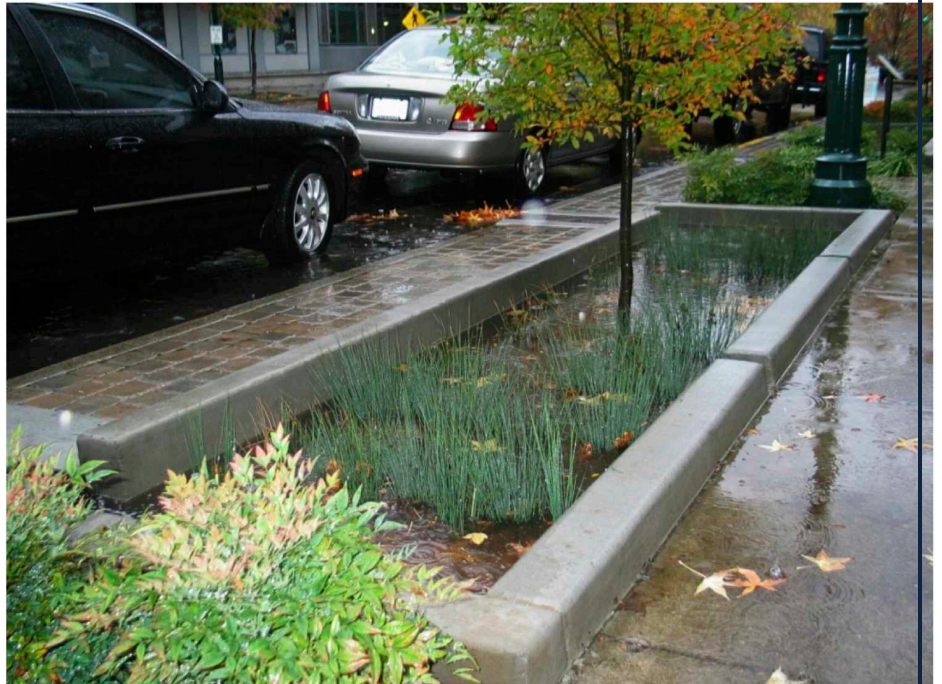
Limitations

- Requires relatively flat site and sufficient hydraulic head for filtration.
- Vegetation requires maintenance and can look overgrown or weedy; in the dry season it may appear dormant.

²³ <http://www.sfbetterstreets.org/find-project-types/greening-and-stormwater-management/stormwater-overview/bioretention-rain-gardens/>



Infiltration planter. Source: Landscapeonline.com



Infiltration planters. Source: greenroofconsultancy.com

Signage:

Although one of the main design features of shared spaces is an absence of demarcations, curbs, and signage, Lincoln Avenue is an interesting case because of Leland Avenue. Leland Avenue curves before the one-way entrance (exit for automobiles) of Lincoln Avenue and the resulting intersection is quite dangerous because of automobiles travelling at high speeds and poor sight lines. One of the goals for this street re-design is to slow down traffic but this particular intersection would still be problematic. There is usually a stressful mix of cars, pedestrians, and bicyclists as seen in the following photo. I am proposing that yellow pedestrian crosswalk signs should be added to the crosswalk shown in the photo.



Pedestrians, cyclists, and automobiles crossing at Leland Avenue. Source: Frank Kryzak, 2015



Example of pedestrian crossing signage.
Source: <http://news.yale.edu/>

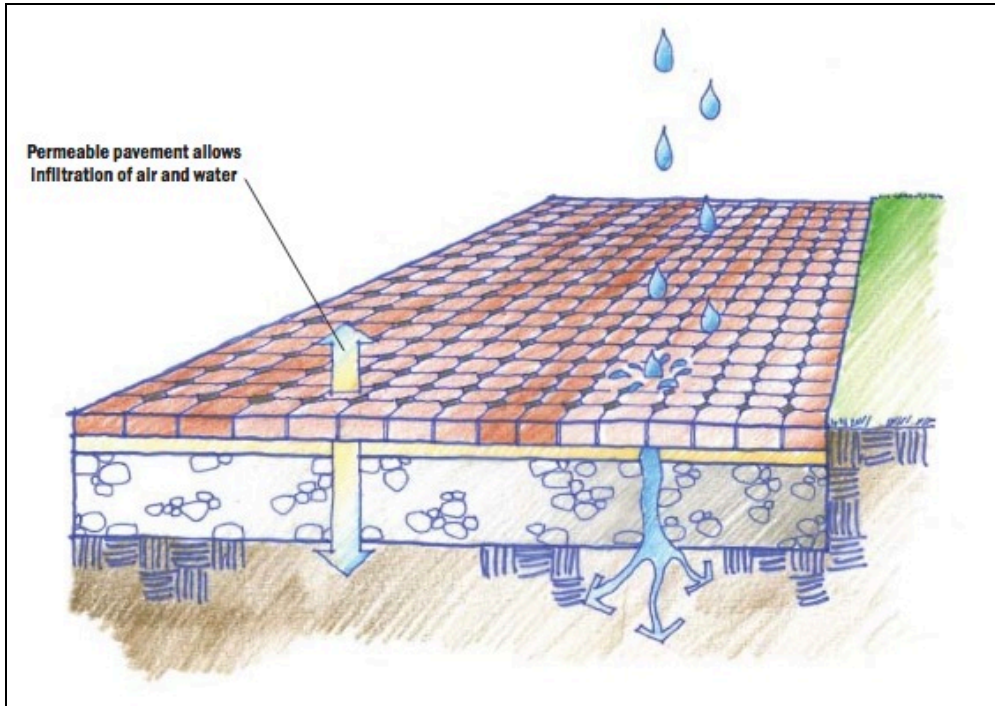
Permeable Paving:

Permeable paving refers to street and sidewalk paving materials that allow stormwater to filter through to the soil below. Permeable paving materials like porous concrete or unit pavers may look similar to traditional paving materials but allow air and water to pass through the paving material, providing the opportunity for temporary storage of stormwater runoff and/or groundwater recharge into the soils below.²⁴



Permeable pavers. Source: canadianundergroundinfrastructure.com

²⁴ http://www.sfbetterstreets.org/find-project-types/greening-and-stormwater-management/stormwater-overview/permeable-paving/#design_guidelines



Permeable paving explanation. Source: berkeleyside.com

Plants:

Plant material adds four-season color, interest, and texture to a streetscape. A number of items must be considered to ensure a successful landscape.

Use and Effect:

The intended use of the landscape should be at the forefront of the design process. What is this landscape intended to do? Whether the intent is to control traffic, screen or enhance views, provide a background for an adjacent use, or just to soften the existing streetscape, the intended use and its desired effect must be considered in the choice of plant materials. In the case for the shared space, planters will be used for traffic calming and beautification, but also infiltration planters will be used to help manage storm water.

Plant Height and Sight Triangles:

Plant heights must also be considered to ensure safety and security in the streetscape. Sight distance triangles are generally based on the design speed of the roadway. However, at crosswalks the maximum height of plant material shall be 30" from the top of pavement. This means that with a curb height of 6" and a planter curb height of 6," the maximum height of the plant material is 18".

Streetscape planters come in a wide range of styles and sizes, much of which is dictated by the Chicago Landscape Ordinance.

Flush Planters:

Flush planters have no curb and are placed at the same elevation as the surrounding sidewalk. They can be installed with or without railings, with turf, or with more intense plantings including groundcover, annuals, perennials, and shrubs. When more intense plantings are used, a railing is recommended to protect the plantings.

Curbed planters:

Curbed planters can be poured in place or constructed of precast concrete, granite, or other natural stone. These planters, varying in length, are generally 6"-8" in height and may have a variety of profiles, depending on the design intent of the project. The minimum size for planters, as measured from the inside of the planter curbs, is 4' in width and 8-1/2' in length. Planters can be installed with or without railings. Sidewalk drainage is a key consideration when designing curbed planters. Sidewalks should be graded so that water on the sidewalk, behind the planter, drains in between the planters to the street.

Hanging baskets:

Hanging baskets are specially designed hanging flowerpots. They are constructed of open metal bands and filled with a lightweight planting soil. Hanging baskets add interest and color to a streetscape and are a way to introduce plant materials when there is no room for trees or planters. Since hanging baskets are costly to install and maintain, they are not recommended outside the central business district without careful study. Although they are purchased and installed by the City, the local chamber of commerce or other community group has the ultimate ongoing maintenance responsibility. Both freestanding planters and hanging baskets require constant maintenance and require frequent watering. The ability of the community to maintain these elements is a critical factor in the decision to include them on a given project.

Unit pavers:

Unit Paver Sidewalks In contrast to monolithic sidewalks, are created using small paving units that form the surface of the sidewalk. Unit pavers have been in use in Chicago since the City was constructed. The old, original brick streets that often underlay newer asphalt surfaces were constructed with unit pavers. The City of Chicago streetscape standards do not advocate the use of pavers for the entire width of the sidewalk, but instead as a decorative element to accent or enhance particular aspects of the streetscape. Unit pavers are made from a number of materials, including concrete, clay, and stone, and are highly variable in color, finish, and texture. Unit pavers are not appropriate for all streetscape projects and both maintenance and budgetary constraints must be considered when determining their appropriateness.

Clay Unit Pavers:

These pavers are fabricated from clay that is fired at extremely high temperatures. However, unlike typical building bricks, clay unit pavers are solid and must meet much higher strength requirements due to their exposure to weathering, water, and salt. High quality clay unit pavers have the following characteristics: They have extremely high strength, often in the range of 10,000-12,000 pounds per square inch. Their absorption rates are low (generally in the four to five percent range) to help prevent spalling. Because the paver is a fired product, the color of the paver will not change over time. These pavers can be considered for the vehicle travel areas of the shared space.

Special Finish Pavers: There are a number of manufacturers of high quality, special finish pavers. These pavers generally are fabricated in a variety of sizes, and have highly variable and customizable surface textures and colors. Due to their larger size they are appropriate for larger sidewalk sections, especially plazas and special interest areas. Special finish pavers can also represent natural stone products such as marble, granite, or other natural local or imported stones. The City of Chicago has selected the following two special finish pavers as the standard: „ The Unilock Unigranite Paver in either the small square (4" x 4" x 2-3/4"), or the large square (6" x 6" x 2-3/4") size paver, or approved equal. The finish can be either split face to resemble granite, or saw-cut for a smooth surface finish. The slate, rose, and black standard color selections are all acceptable. The Unilock Brussels Block

tumbled paver in either the standard (7" x 8-1/4" x 2-3/4"), half (7" x 4-1/8" x 2-3/4") or quarter (3.3" x 4" x 2-3/4") stone, or approved equal. The standard color is the Limestone/Sandstone/Bluestone color combination blend. These are the pavers used in Kempf Plaza in Lincoln Square, and they could also be used for the shared space.

Parking Solutions

Parking is another important functional requirement that the streetscape must address. One of the key objectives of the Streetscape and Urban Design Program is to promote neighborhood commercial, economic, and social development. Parking is an essential component of creating successful commercial districts. In terms of angled parking, as opposed to parallel parking, it may be appropriate on side streets adjacent to commercial areas. **Angled stalls present a significant safety challenge by requiring the driver to back out into oncoming traffic.** *Adjacent larger vehicles often limit sight distances.* Specific guidelines have been developed to determine the feasibility of angled parking. These requirements are different for one-way and two-way streets. In addition, the existence of mature trees, driveways, loading zones, and low-height residential windows must also be examined. The shared space design will rid Lincoln Avenue of angled parking because it is a safety hazard, and the area of parking will be reduced from 16 feet to 8 feet. Local merchants will probably, initially, be concerned over loss of street parking (there will be less from Leland to Lawrence because of the change from diagonal parking to parallel parking), and some spots between Wilson and Leland will be lost due to bump outs and infiltration planters. Part of the shared space proposal has a Transit Oriented Development portion, which will be described later in the report, and I am going to propose creating more off street parking with two mixed-use buildings that could potentially have public parking as an element.



Angled parking on Lincoln Avenue. Source: Frank Kryzak, 2015

Laclede's Landing in Saint Louis is a successful example of a pedestrian oriented area that uses off street parking.²⁵ Laclede's District is an old-town industrial retail and pub district that relies on perimeter surface lots to serve visitors. Characteristic of this old industrial area, carriage rides and strolling in the street are made possible by not having on-street parking. The area was a former industrial riverfront area that the City chose to become an entertainment district with limited on-street parking opportunities.

Lessons from Laclede's Landing:

The century-old narrow cobble streets and brick buildings have become decidedly retail and restaurant oriented, but their character remains intact. Undoubtedly the largest asset to the district is the limited on-street parking.

Perimeter parking:

Limited on-street parking is supplemented by numerous surface lots surrounding the district allowing a pedestrian friendly district while still allowing visitors to gain vehicular access to the space.



No street parking directly on Laclede's Landing. Source: wherescool.com

²⁵ <http://www.smgov.net/uploadedFiles/Departments/PCD/Plans/Bergamot-Area-Plan/Shared-Space-Streets.pdf>

Loading Zones:

Loading zones are designated areas in the parking lane for the loading and unloading of deliveries to buildings. Loading zones are usually requested by merchants or building owners through their Aldermanic office. Loading zones can still exist in the shared space.



CH. 6 SHARED STREET & TOD PROPOSAL

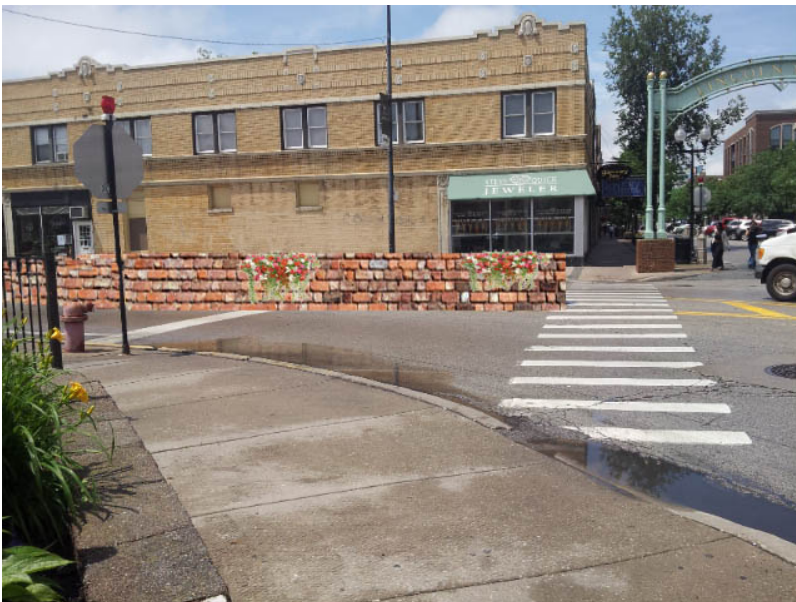
Mariahilferstrasse shared space. Source: www.landezine.com

I propose redesigning Lincoln Avenue, between Lawrence Avenue and Leland Avenue, into a shared space; raising the street to the height of the sidewalks, and removing any demarcations between the two by also adding permeable pavers to the entire right-of-way. The diagonal parking will be removed and in its place will be some parallel parking in between bump outs that have native plant species to help with storm water management. The diagonal parking makes the street too cluttered and dangerous because people can't see behind them very well when backing out of the stalls, and anecdotally, I have seen multiple people either walking or on bicycles almost get hit because of this. Also, not every parking space means a customer to patronize a local business, because many people will leave their car there for a long time but not patronizing any of the businesses, therefore possibly actually having a detrimental fiscal impact on nearby businesses.

I propose turning Lincoln Avenue, between Wilson Avenue and Leland Avenue into a shared space as well, but it will continue to function as a two-way street. A small number of parking spaces will be lost. This portion of the shared space will be similar to the one-way stretch of Lincoln Avenue between Leland and Lawrence, however this stretch will retain "lanes" for cars, the permeable pavers will be differently colored to help differentiate the where northbound and southbound automobiles should be. This way, when Lincoln turns into Leland, it should not be confusing for the driver. The street will be raised to the sidewalk as well, and there will be bump outs with infiltration planters.

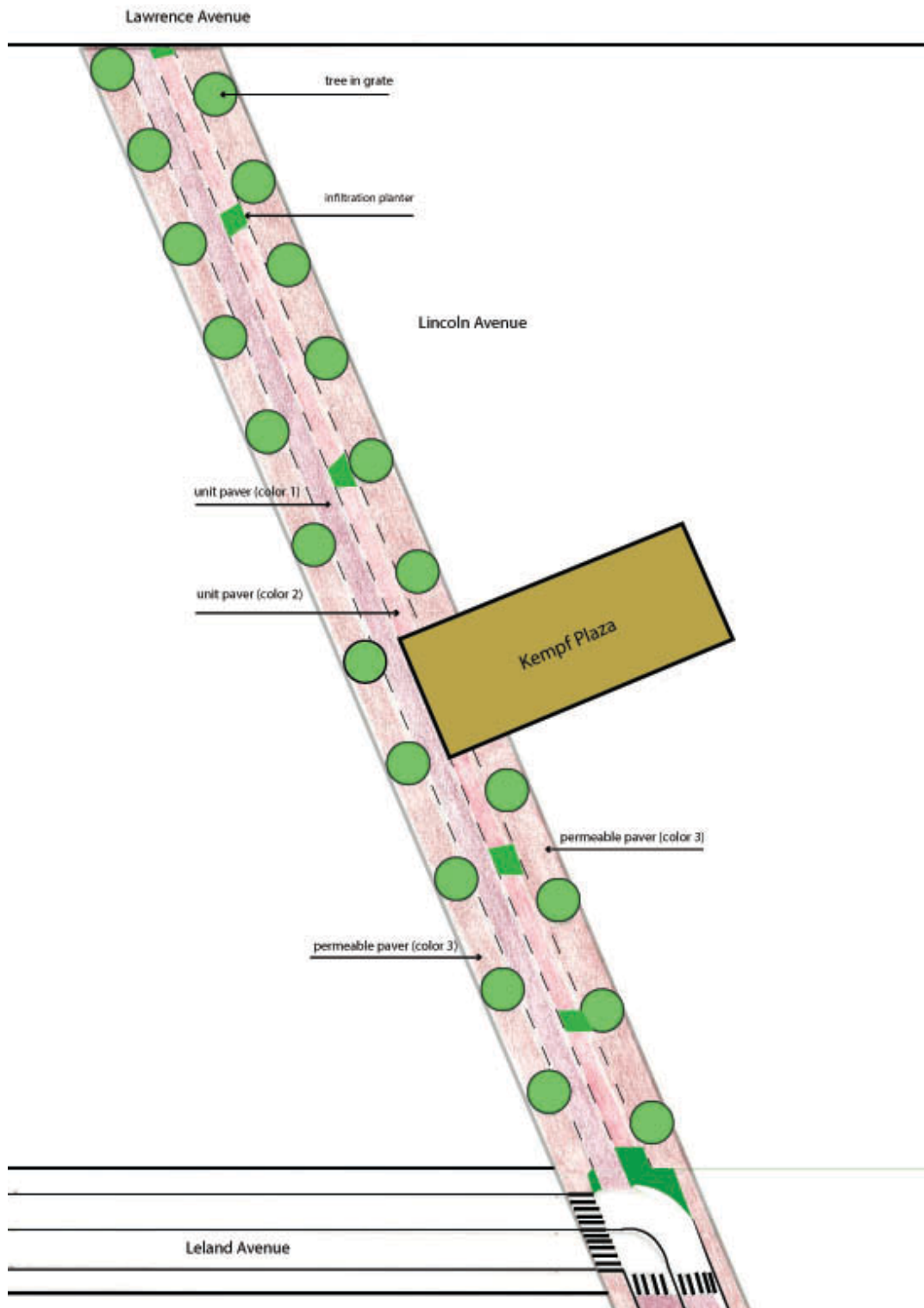
From my personal observations Leland Avenue seems dangerous; there are many pedestrians and bicyclists crossing the street from the entrance of the Lincoln Square "mall" or from the CTA station, and opposing traffic moves fast and some drivers seem surprised by the stop sign and people trying to cross at the crosswalk. I propose a yield to pedestrians sign for safety reasons, or yield signs like a flashing yellow sign as well, and a raised crosswalk. The raised crosswalk at the west edge of Lincoln that crosses over Leland will effectively be the border of the shared space. West of the crosswalk at Leland and Lincoln, the street will function as a typical street. The traffic guard rail on Leland will be removed and replaced with a nice brick barrier and some human-scale street lamps. Also the sidewalks on Leland will be widened and the traffic lanes will be right-sized (probably 10 feet wide) so there is more room for pedestrians and it is more pleasant for people, not just automobiles.

An element of the redesign will involve widening the sidewalk on the north side of Leland Avenue and converting the metal highway-like guard rail to a tasteful brick wall with hanging planters.



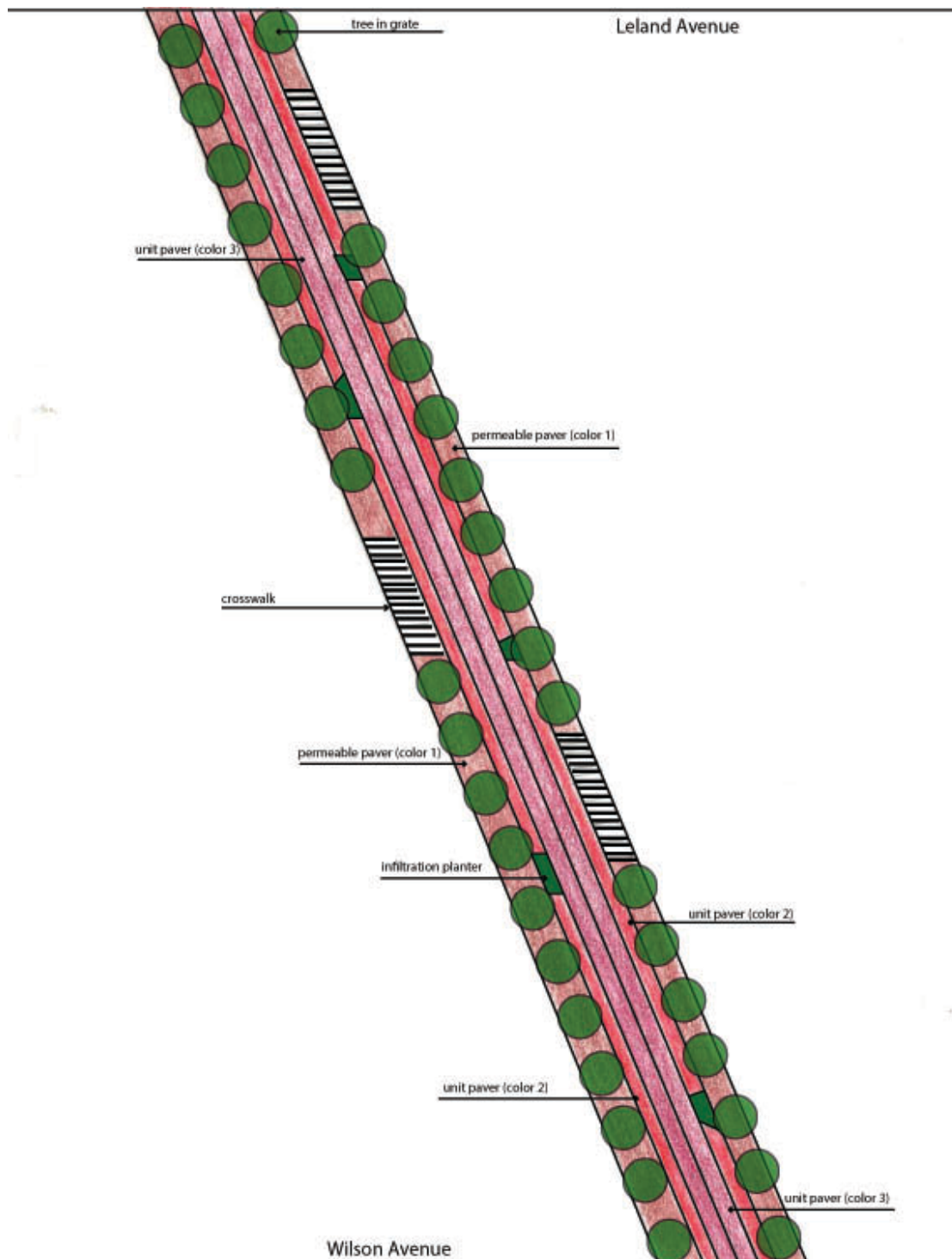
Rendering of new brick barrier replacing metal guard rail. Source: Frank Kryzak, 2015

Plan View Lincoln Ave. from Leland to Lawrence:



Source: Frank Kryzak, 2015

Plan View Lincoln Ave. from Wilson to Leland:



Source: Frank Kryzak, 2015

Perspective View Lincoln & Leland Looking North:



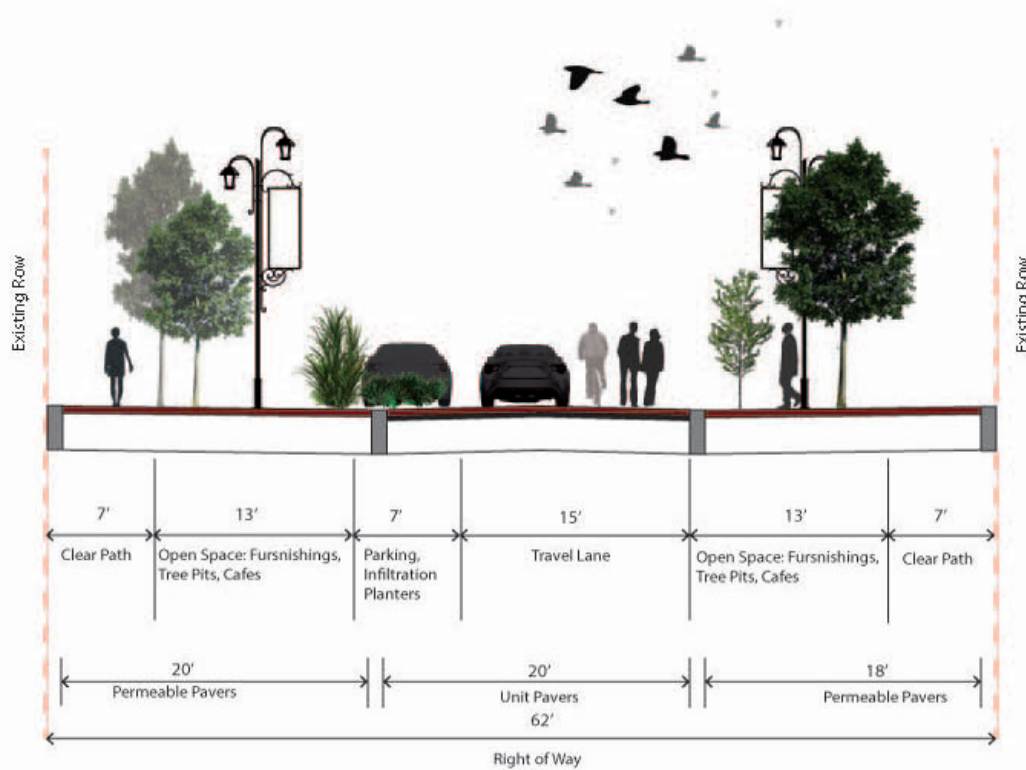
Source: Frank Kryzak, 2015. Note: Kempf Plaza and the fountain are absent from the rendering but they would be retained in the shared space.

Perspective View Lincoln & Wilson Looking North:



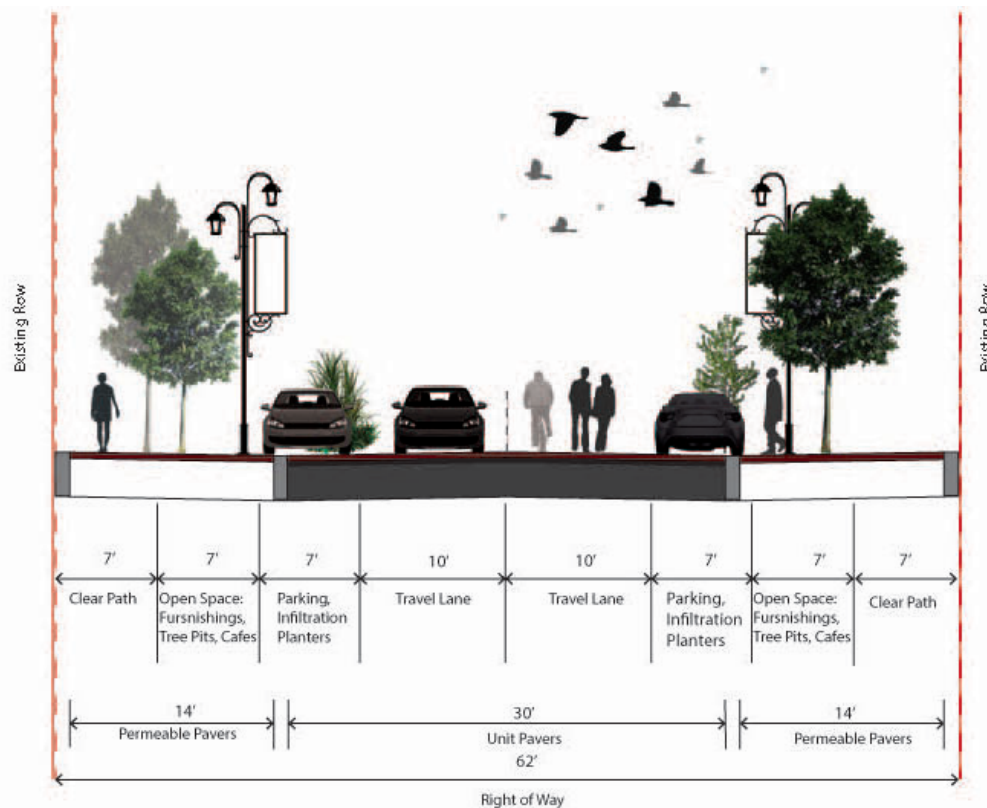
Source: Frank Kryzak, 2015

Cross Section Lincoln & Lawrence Looking South:



Source: Frank Kryzak, 2015

Cross Section Lincoln & Leland Looking South



Source: Frank Kryzak, 2015

TRANSIT ORIENTED DEVELOPMENT

Chicago's TOD Ordinance

The City of Chicago recently increased incentives for quality development near transit stations through the Transit Oriented Development (TOD) ordinance. These incentives are an important step toward increasing transit ridership in the Chicago region: When more people live and work near transit, more people use transit.²⁶

One of the strengths of Lincoln Avenue from Wilson to Lawrence is it is served by the Western CTA Brown Line station. I am proposing that Transit Oriented Development could be explored to replace the two surface parking lots around the Western CTA station. These new mixed-use developments could have ground floor retail, and perhaps public parking to make up for the lost City of Chicago parking metered spots on Lincoln Avenue. This would increase the density of the area, thus providing even more “eyes on the street”, and helping Lincoln Avenue to thrive and be more vibrant 24 hours a day. The parking could function just like the existing surface lots do, but they can also be branded as Lincoln Square parking, so people who intend on patronizing business on Lincoln but can't find on street parking in the new shared space areas, they can utilize the public parking in the new mixed use-developments. Also, since it is Transit Oriented Development there wouldn't need to be as much parking requirements for the developers to supply for residents of the building, but there could be spots somewhere in the parking area for them. Or the new development can be fronting Lincoln and Leland, but the surface parking lots fronting Western just gets turned into a larger parking structure, like the following example, the Santa Monica Civic Center parking structure.

²⁶ http://www.metroplanning.org/work/project/30/subpage/4?utm_source=%2ftod-ordinance&utm_medium=web&utm_campaign=redirect



Public parking. Source: moorerubleyudell.com

Possible Transit Oriented Development Replacing Two Surface Parking Lots



Source: Frank Kryzak, 2015

The northwest parking lot qualifies for higher density, so a large mixed-use development is definitely feasible, but the lot abutting the CTA station may be trickier, and the design would have to be further explored. With the TOD ordinance, floor area ratio and height is able to increase and required parking is able to decrease, so there is high incentive for developers.



Source: Metropolitan Planning Council

CONCLUSION

Lincoln Avenue has very high potential to be re-designed as a successful shared space. By ridding the right-of-way of most signs and demarcations and raising the street to the curb height, the entire right-of-way will be transformed into a space where cyclists, pedestrians, and automobiles can co-exist. There are examples of successful shared spaces in Auckland, Brighton, Cambridge, and Drachten. Bell Street in Seattle is an example of why this type of street design is favorable over other more expensive options. Adding a transit oriented development element to the street re-design would allow for higher density surrounding the street, more activity throughout the day and night, more commercial uses, and could supplement the loss of a significant portion of on-street parking on Lincoln Avenue. The goal is to make a space for people where they can “take back the street” as an extension of their lives, not a place where people are at the bottom of the modal hierarchy. It can be a place where traffic moves at the human pace, and people can enjoy conversations, relax, and be actively engaged in the outdoor environment. For too long we have let the public right-of-way be dominated by the design seemingly exclusively for the automobile. The automobile is simply one way of transport, and it should be treated as such, especially when a street such as Lincoln already is designated as a pedestrian street. I would like to reiterate the idea from ‘Paris Piéton’ , in all, this report has aimed to **consider the pedestrian not just as someone who is moving from one point to another, but as a person who is experiencing the city.** Redesigning Lincoln Avenue from Wilson to Lawrence would result in something to be experienced, not simply a street, but a *place*.