TRANSIT-ORIENTED DEVELOPMENT IN MINNETONKA

Prepared by

Jon Creed, Joe Giant, David Thorpe, and David White

Students in PA 8201: Land Use and Transportation Capstone
Humphrey School of Public Affairs | University of Minnesota
Faculty Advisor: Mike Greco

In Partial Fulfillment of the
Master of Urban and Regional Planning Degree Requirements

On behalf of

Loren Gordon, Planner, City of Minnetonka

With support from

The Resilient Communities Project

May 2013

Resilient Communities Project

UNIVERSITY OF MINNESOTA
Driven to Discover℠

MURP Capstone Paper

In Partial Fulfillment of the Master of Urban and Regional Planning Degree Requirements
The Hubert H. Humphrey School of Public Affairs
The University of Minnesota

This project was supported by the Resilient Communities Project (RCP), a program at the University of Minnesota that convenes the wide-ranging expertise of U of M faculty and students to address strategic local projects that advance community resilience and sustainability. RCP is a program of the Center for Urban and Regional Affairs (CURA) and the Institute on the Environment.

This work is licensed under the Creative Commons Attribution-NonCommercial 3.0 Unported License. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc/3.0/ or send a letter to Creative Commons, 444 Castro Street, Suite 900, Mountain View, California, 94041, USA. Any reproduction, distribution, or derivative use of this work under this license must be accompanied by the following attribution: "Produced by Jon Creed, Joe Giant, David Thorpe, and David White. Reproduced under a Creative Commons Attribution-NonCommercial 3.0 Unported License."

This publication may be available in alternate formats upon request.

Resilient Communities Project
University of Minnesota
330 HHHSPA
301—19th Avenue South
Minneapolis, Minnesota 55455
Phone: (612) 625-7501
E-mail: rcp@umn.edu
Web site: http://www.rcp.umn.edu

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

TOD + MTKA

TRANSIT-ORIENTED DEVELOPMENT IN MINNETONKA:

CASES AND POLICY RECOMMENDATIONS FOR TOD IMPLEMENTATION IN MINNETONKA, MN

MAY 14, 2013

Prepared for: The City of Minnetonka, MN

PA 8081 Capstone:
Land Use and Transportation Planning
Humphrey School of Public Affairs
University of Minnesota
Spring 2013

Faculty Advisor: Mike Greco, AICP

Team Members:
Jon Creed
Joe Giant
David Thorpe
David White

Resilient Communities Project

UNIVERSITY OF MINNESOTA
Driven to Discover℠

TABLE OF CONTENTS

Image source: Author

TOD + MTKA

ACKNOWLEDGEMENTS

The project team wishes to thank the numerous people who contributed to this project, both directly and indirectly. This report would not be possible without you. Thank you.

Mike Greco	University of Minnesota
Loren Gordon	City of Minnetonka, MN
Julie Wischnack	City of Minnetonka, MN

Allison Bell	Metropolitan Council
Catherine Cox Blair	Reconnecting America
Loretta Daniel	City of Aurora, CO
Elise Durbin	City of Minnetonka, MN
Mark Fabel	McGough Companies
Julie Farnham	City of Bloomington, MN
David Frank	City of Minneapolis, MN
Tim Gladhill	City of Ramsey, MN

City of Minnetonka
University of Minnesota
Resilient Communities Project

Jim Graebner	Lomarado Group
Patrick McLaughlin	Regional Transportation District
Regina Rojas	City of Eden Prairie, MN
Carissa Schively Slotterback	University of Minnesota
Harold Stitt	City of Englewood, CO
Dave van Hattum	Transit for Livable Communities
Sean Walther	City of St. Louis Park, MN
Jack Wierzenski	Dallas Area Rapid Transit

Image source: Author

TOD + MTKA

KEY TERMS AND ABBREVIATIONS

BART	Bay Area Rapid Transit
BRT	Bus Rapid Transit
COPS	Certificates of Participation
CTOD	Center for Transit Oriented Development
DART	Dallas Area Rapid Transit
du/ac	Dwelling Units per Acre
EE	Environmental Evaluation
EEF	Englewood Environmental Foundation
EESAP	Eisenhower East Small Area Plan
EIS	Environmental Impact Statement
FBC	Form-Based Code
LRT	Light Rail Transit
MARTA	Metropolitan Atlanta Rapid Transit Authority
PUD	Planned Unit Development
RFP	Request for Proposals
RTD	Regional Transportation District
TIF	Tax Increment Financing
TOD	Transit-Oriented Development
TSAAP	Transitional Station Area Action Plans
ULI	Urban Land Institute

Image source: Author

Executive Summary

The University of Minnesota – Humphrey School of Public Affairs graduate research team, through the 2012-2013 Resilient Communities Project and the City of Minnetonka, compiled this TOD recommendations report and toolkit.[1] Using the Minnetonka 2030 Comprehensive Guide Plan and variety of reports derived from Hennepin County's Transitional Station Area Action Plans (TSAAP) process as a foundation for land use goals and future recommendations for the City, this report seeks to provide the City of Minnetonka with policy recommendations that can ensure the potential economic, environmental, and transit benefits associated with the development of the Shady Oak and Opus Light Rail Transit (LRT) station areas. This process was accomplished by examining best practices in transit-oriented development (TOD) using national examples, then synthesizing the key themes and lessons into a "toolkit" of policy recommendations applicable to the City of Minnetonka. The research and recommendations have been divided into three parts.

Part I provides an overview of the two Minnetonka's station areas and Southwest LRT planning to date. The Shady Oak station will initially be characterized by surface parking lots and a park-and-ride, but gradually transition to a transit-oriented mixed-use "urban village." Alternatively, Opus will initially be a destination for transit users due to its current role as a major employment center. Increasing the residential population of the station area has been identified as a long-term goal, but immediate expectations are for continued office development.

Part II describes distills the planning and evolution of eight TOD case studies. Although the cases represent a variety of settings, many common themes can be (deduced) that are relevant to Minnetonka. These suburban examples provide applicable policy solutions and could inspire form and design. Additionally, less-contextual examples convey broader principles that could facilitate TOD implementation.

Part III distills the individual cases and lessons learned into three broad findings. The three primary policy recommendations are to:

1. **Establish a clear vision for the city's station areas**. This vision should incorporate quantitative performance standards such as parking allowances and density standards as well as qualitative standards including station identity and sense of place.
2. **Use an appropriate zoning framework to achieve the vision.** Successful TODs are contingent on innovative yet consistent and predictable review processes. While, unique approaches are utilized in all of the cities examined in this report, Planned Unit Developments (PUDs) are the most common. This approach may best suit Minnetonka because, with the exception of design guidelines, this regulatory framework can be implemented through revisions of existing documents.
3. **Identify and develop key partnerships, including developers.** Successful TODs have consistent, clear, and knowledgeable support from local governments. Minnetonka may not be the developer of these sites, but it should begin to see itself as the "nexus" of vested interests in the site. Public/private partnerships contributed to the success of several of the cases by streamlining efforts and allowing each entity to perform the tasks for which they were best suited. Characteristics of successful developers include the ability to execute a community's vision, a belief in that vision, an ability to develop multiple land uses, skill at working with complicated sites, and a record of performance and design excellence in their developments.

Introduction

With the introduction of the Southwest Light Rail, the City of Minnetonka has an opportunity for significant investment and redevelopment in the area surrounding the Shady Oak and Opus stations. The first step in pursuit of this goal is creating a policy framework that is conducive to the growth of Transit-Oriented Development. Transit-Oriented Developments, or TODs, create vibrant hubs of activity around transit stations through mixed-use development, relatively high population and employment density, and a sense of "place".

In this study TODs from around the country have been evaluated in order to determine the policies that contributed to their success. Each case study has different characteristics: from geographical location to mode, from the character of the station area to the type of redevelopment process. Each case begins with a snapshot of the community and the rationale for its selection, and concludes with applicable lessons which can be applied to Minnetonka. These case studies include: Contra Costa, California; Englewood, Colorado; Aurora, Colorado; Mockingbird Station, Dallas, Texas; Chamblee, Georgia; Eisenhower Avenue Station, Alexandria, Virginia; the Rosslyn-Ballston Corridor, Washington D.C.; and Bloomington Central Station, Bloomington, Minnesota.

The case studies draw focus on both communities that are comparable to Minnetonka as well as specific noteworthy TODs from around the country. Similar to plan for Shady Oak, several of the case studies reference the redevelopment of brownfields or grayfields into viable locations for residences and businesses. For example, Englewood, CO redeveloped a flagging mall, Chamblee, GA and Mockingbird Station in Dallas redeveloped former light industrial uses, Alexandria, VA redeveloped a business park, and Rosslyn-Ballston transformed a declining commercial corridor. While suburban examples provide applicable policy solutions and could inspire form and design, less analogous examples convey broader principles that will help facilitate TOD implementation. Purposefully, the following policy suggestions stop short of prescribing a specific TOD form for Minnetonka to adopt, as such a decision should be the result of a collaborative effort between the City and the community. Rather, the synthesis of the case studies will reveal guiding policy principles that will increase the chances that the collaborative vision will be successfully implemented.

A key concept that emerges in the document is the dichotomy between node and place.[2] This basic principal is that TODs function both as a node in a transit network (much like a park-and-ride) while also serving as a "place" with a unique identity. Most of the cases included here have evolved from node to place by striking a balance between these two elements. Minnetonka's strategy for a TOD will have to account for these dual roles in its station area planning.

Shady Oak will begin primarily as a node, as opposed to a place. Case studies suggest that the transition from one to the other will have to be highly intentional. The station area will likely be a point of origin, rather than a destination for most riders. In contrast, Opus will likely emerge earlier as a place because of the Opus office park's established role as a major employment center in the city. Market forces will influence the development of the station area, creating the sense of place. Additionally, there will not be a park-and-ride, thus eliminating the tendency toward its role as a point of origin.

Transit-Oriented Development, even after 20 years of examples and successes, is still an emerging concept. However, the theory of the TOD is sound, with the difficulties lying in the application of the theory to a myriad of unique, complicated contexts. Regardless of location, greenfield development offers an element of similarity and certainty that infill and redevelopment sites lack. The immense number of stakeholders and the interplay between goals complicates the TOD planning process. However, by learning from peers and predecessors, Minnetonka can create a foundation that will be both strong enough to weather challenges and flexible enough to respond to changes in the site as it evolves. Vibrant TODs take time to develop. Through the steadfast pursuit of a vision, a strong policy framework, and collaboration with key stakeholders, the City can create lively station areas that will be an asset to the community for years to come.

PART I:
CONTEXT AND BACKGROUND

TOD + MTKA

MINNETONKA
AND ITS PROPOSED LRT STATIONS

Location:	A second ring suburb, located 8 miles west of Minneapolis, MN.
Size and Density:	26.93 square miles with on overall population density of 1,847 persons per square mile.[3]
Population:	The 2010 population was 49,734.[4]
Income :	2007 - 2011 median household income was $81,588.[5]
Mode:	LRT
To-date planning:	2030 Comprehensive Guide Plan Southwest Overlay District Hay-Dobbs Plan Capstone projects through the Humphrey School of Public Policy. Ehlers & Associates study of Shady Oak Transitional Station Area Action Plans (TSAAP)
Transit start date:	2018 (projected)[6]

Image source: Minnetonkafelix. Available at http://minnetonkascenes.blogspot.com/2009/07/minnetonka-water-tower.html.

SOUTHWEST LRT SNAPSHOT

The Southwest LRT line will extend fifteen miles from Target Field Station in downtown Minneapolis through St. Louis Park, Hopkins, Minnetonka and Eden Prairie.[7] The line will have 17 stations. The total estimated project cost is $1.25 billion[8] drawn from a variety of funding sources, including:

- 50% from the Federal Transit Administration's New Starts program
- 30% from the Counties Transit Improvement Board
- 10% from the State of Minnesota
- 10% from the Hennepin County Regional Railroad Authority

Demographic analysis of half-mile radii around the proposed stations[9] indicates that median household income was $50,580 in 2012 and is projected to be $58,673 in 2017. In 2010, there were 107,200 jobs along the proposed line. The population density was 1.83 persons per acre in 2010.

The Southwest LRT line is projected to open in 2018.[10] One station will be entirely within Minnetonka (Opus) and the other will be situated on the border between Minnetonka and Hopkins (Shady Oak).

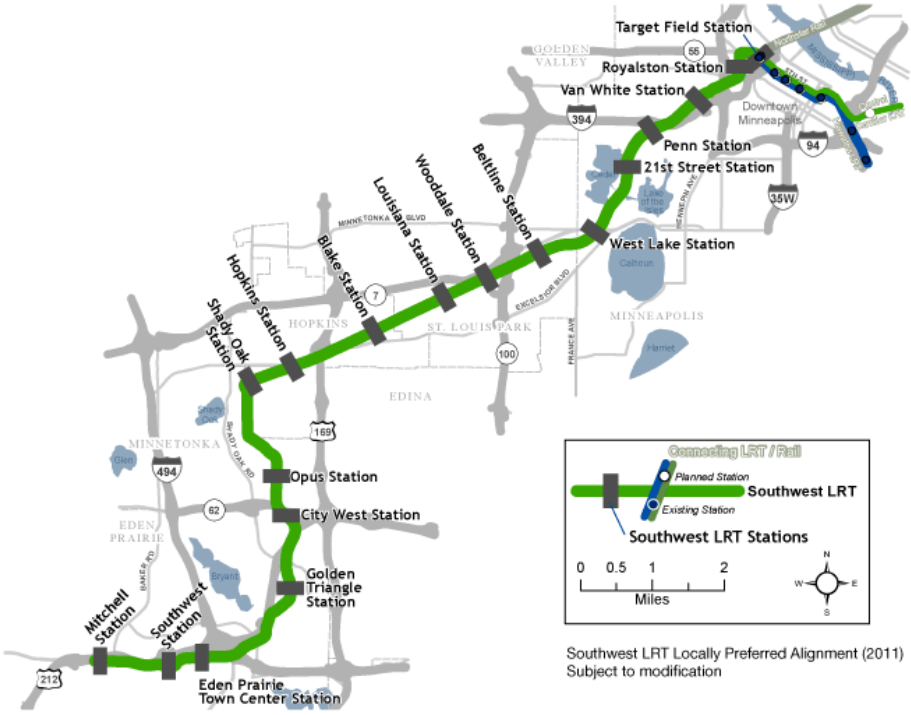

Figure 1. The Southwest LRT is 15.8 miles long with 17 stations. Source: http://metrocouncil.org/Transportation/Projects/Current-Projects/Southwest-LRT/Photos/Maps/Southwest-LRT-Locally-Preferred-Alignment-Map-680p.aspx

THE SOUTHWEST CORRIDOR: A BRIEF HISTORY

The Southwest Corridor project has a storied and complex development history that spans over five decades. Its feasibility was frequently the subject of "fixed guideway transit system" studies conducted in the Minneapolis metropolitan area during the 1960s and 1970s.[11] In 1980, the Minnesota Legislature lifted a prohibition on fixed rail planning and directed the Metropolitan Council to conduct a feasibility study of light rail transit (LRT) service throughout the metropolitan area.[12] After a thorough analysis, it was determined that LRT service was a possibility in the Southwest Corridor.[13] This assertion was later confirmed in a study conducted by the Hennepin County Regional Railroad Authority (HCRRA) in 1988.[14] The confirmation lead to a series of research and planning efforts that would identify and assess the Corridor's various mode and route alternatives.[15]

At the culmination of these research efforts, the Corridor's final alignment was determined and an application to the Federal Transit Administration (FTA) to begin

Preliminary Engineering (PE) was submitted in 2010.[16] After receiving FTA approval to begin PE, numerous organizational changes were implemented to support and provide feedback for the Corridor's Draft Environmental Impact Statement (DEIS) process.[17] Following the public review of the DEIS, the Metropolitan Council took control of the Southwest Corridor project from Hennepin County in December of 2012.[18]

Since the transfer, the Metropolitan Council has hired two PE consultants to complete the PE process. The PE process is anticipated to take two years to complete and will result in a 30 percent engineering solution.[19] The final design process is anticipated to be complete by 2015. Shortly thereafter, construction will begin. By 2018, the Southwest Corridor will be open for passenger service as part of the Green Line extension.[20]

Station area planning has been conducted for both Shady Oak and Opus a number of times, including the Hay Dobbs plans and University of Minnesota student capstone projects. These plans have generally be oriented towards the long-term character of Minnetonka's station areas. Minnetonka is now participating in the Transitional Station Area Action Plans (TSAAP) process. These plans, sponsored by Hennepin County, will provide "day-one" station area plans for stations on the Southwest LRT line.

SHADY OAK STATION

Shady Oak Station will be located on the Hennepin County Regional Rail Authority's (HCRRA) right-of-way, just south of 17th Avenue and Excelsior Boulevard.[21] According to the City's 2030 Comprehensive Guide Plan, the area has been identified as one of Minnetonka's "Neighborhood Village Centers".[22] This small commercial area has been studied extensively and is anticipated to experience diversification in its land use and residential and commercial growth. Although a final design has yet to be agreed upon for the area, the City's land use goals identified in the City's Comprehensive Guide Plan virtually mirror the Center for Transit Oriented Development's (CTOD) description of a "Transit Town Center".[23, 24]

According to the Transit Town Center land use characteristics outlined in CTOD's Station Area Planning guide, this area should promote a moderate-density mix of residential, commercial, and civic uses. As noted in the guide, promoting this type of growth may create challenges in "increasing densities while retaining scale and improving transit access".[25] Since parking is an invaluable aspect of station design, it is important to note that CTOD suggests a mixture of on-street and structured off-street parking in order to meet the parking demands of the Transit Town Center.[26]

Figure 2. Shady Oak Station. Source: Altered from original at http://www.southwesttransitway.org.

SHADY OAK SNAPSHOT

Location:	South of 17th Avenue and Excelsior Boulevard in Minnetonka.
1/2 mi radius median income:	2012: $34,148[27] 2017: $39,730 (estimate)
1/2 mi radius population:	2010: 859 2017: 857 (projected)
1/2 mi radius per acre density:	2010: 1.71 2017: 1.70 (projected)
Station opening:	2018 (projected)[28]

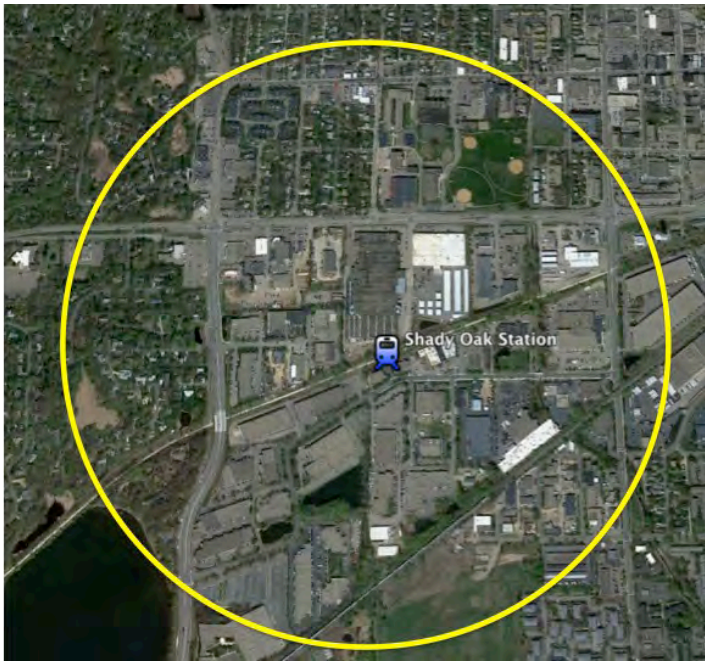

Figure 3. Shady Oak station from the air with a half-mile radius around the station. Source: Google Earth.

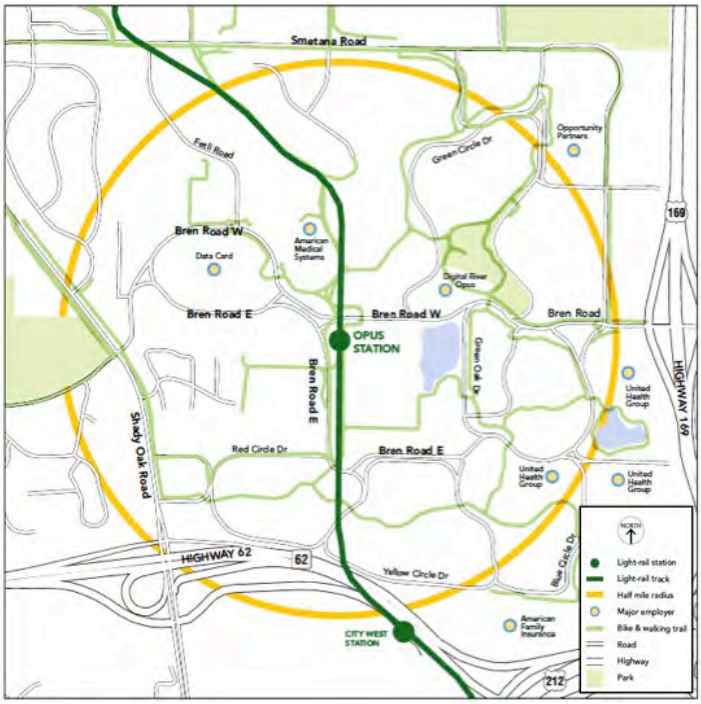

Figure 4. Opus Station Source: Altered from original at http://www.southwesttransitway.org.

There are a number of key obstacles to redevelopment at Shady Oak. The station will be located roughly on the city border between Minnetonka and Hopkins, meaning that the two cities will need to collaborate on station area character and phasing. The Minnetonka side of Shady Oak has twenty-one individual parcels, at least five of which have no direct road access. Portions of the site are likely contaminated due to their history of industrial use. However, Shady Oak's assets include excellent auto access, multi-modal and bicycle infrastructure, and a competitive location for park-and-ride for commuters.

Input from the City indicates that Shady Oak will initially be distinguished by surface parking lots and a park-and-ride, while the loose long-term vision is for a mix of residential and some commercial occurring at higher than average densities. It will begin primarily as a node, as opposed to a place; the transition from one to the other will have to be highly intentional. The station area will likely be a point of origin for most riders, as opposed to a destination.

OPUS STATION

Opus Station is located in the Opus Office Park, west of Highway 169, south of Bren Road West and north of Bren Road East.[29] According to the City's 2030 Comprehensive Guide Plan, Opus Office Park is the largest business area in the city. Although it was originally planned for mixed use, it has become an office and manufacturing center.[30] Looking towards the future, stakeholders anticipate an increase in large-scale office development, medium-density housing growth, and limited retail services around Opus Station. To handle parking demand, structured parking has been promoted as a means to ensure TOD and transit goals.[31] The City's land use goals identified in their Comprehensive Guide Plan are similar to CTOD's description of a "Special Use/Employment District".[32]

According to Special Use/Employment District land use characteristics outlined in CTOD's Station Area Planning Guide, the area should concentrate on employment uses and explore the possibility of increasing residential development. As noted in the guide, promoting this growth may create challenges in "creating sustainable off-peak uses and accommodating peak travel demand".[33] CTOD's guide also confirmed that structured off-street parking would be needed to achieve the TOD and transit goals of the Special Use/Employment District.[34]

Challenges at Opus include poor system-wide connectivity due to its location in the heart of a suburban-style office park, complicated street patterns, and lower pedestrian access from the station area to neighboring office buildings. Strengths include a much more simple land ownership arrangement than Shady Oak.

Based on input from the City of Minnetonka, the project team understands that Opus will primarily be a destination, as opposed to a point of origin on the LRT system. The station area will likely be developed by market forces and there will not be a park-and-ride. Some residential uses may occur at Opus in the long-term, but immediate expectations are for increased office uses. Opus will likely be more of a "place", though initial land use in the station area will probably be less intense than elsewhere in the Opus office park.

OPUS SNAPSHOT

Location:	Opus Office Park in Minnetonka.
1/2 mi radius median income:	2012: $44,224[35] 2017: $49,007 (estimate)
1/2 mi radius population:	2010: 1,105 2017: 1,193 (projected)
1/2 mi radius per acre density:	2010: 2.20 2017: 2.37 (projected)
Station opening:	2018 (projected)[36]

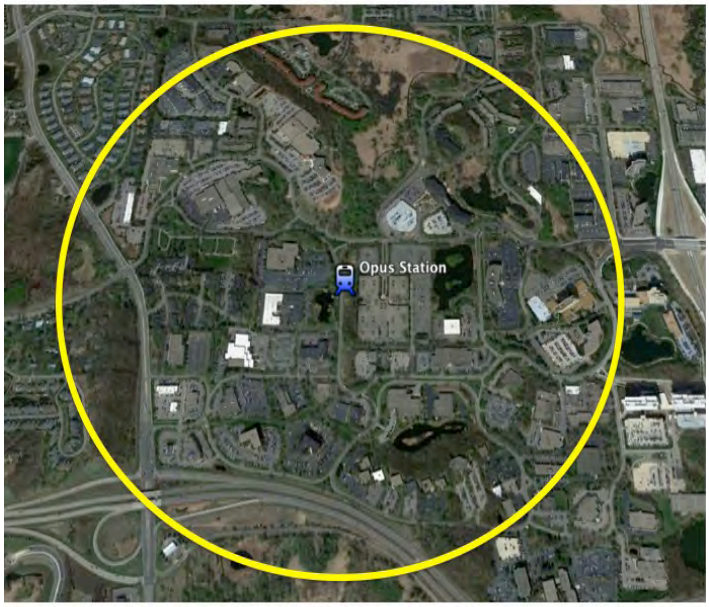

Figure 5. Opus station from the air with a half-mile radius around the station. Source: Google Earth.

TOD + MTKA

PART II:
CASE STUDIES

Figure 6. The location of the case studies examined in this report. Source (base map): http://commons.wikimedia.org/wiki/File:Blank_US_Map.svg.

CONTRA COSTA
CALIFORNIA

Location:	Contra Costa is a TOD in Pleasant Hill, CA, adjacent to the Pleasant Hill station of the San Francisco Metro Area's Bay Area Rapid Transit (BART) System. The station is located about 27 miles northeast of downtown San Francisco.
Size and Density:	The city is 7 square miles, with an overall density of 4,687.8 persons per square mile.[37]
City Population:	The 2010 population was 33,152.[38]
City Income :	The 2007 - 2011 median household income was $78,765.[39]
Mode:	Rapid transit subway
TOD size:	7,000 persons, 6,000 jobs spread over 125 acres
Transit start date:	1973
Planning began:	1983 (TOD not implemented until 2010)
Selected because:	Contra Costa is an excellent example of TOD in a suburban context. Its evolution from a park and ride to a mixed use TOD occurred over several decades, but a sturdy policy framework ensured that each new development fit within the long-term vision for the site.

Image source: Sam Newberg. http://www.streets.mn/2012/07/26/form-based-code-a-tool-for-successful-tod/contra-costa-town-square-2/#!lightbox/0/.

CONTEXT

As commuter rail travel continues to pick up steam across the United States, many suburban communities will be faced with land use and transportation decisions that could significantly alter their landscape. The concept of transit-oriented development (TOD) has the potential to successfully integrate these two elements in a manner that could create vibrant hubs of activity in underutilized parts of a metropolitan area. Applying this concept to low-density suburban areas has great promise, but also presents unique challenges. With the implementation of alternative modes of transportation such as light rail, auto-dependent suburbs such as Minnetonka have an opportunity to reconfigure themselves as hubs of pedestrian activity centered around a multi-modal transit station. In order for transit-oriented development to occur, suburbs must proactively formulate policies that will steer growth and development in a manner that embraces a mix of land uses, multi-modal transportation, sense of place, and pedestrian orientation. The Pleasant Hill BART station outside of San Francisco exhibits these characteristics in a suburban setting. The transformation from low-density suburban development to high-density TOD around the station required several decades of policy evolution as well as finding the right balance between development regulations and incentives. Lessons learned in Pleasant Hill can help Minnetonka effectively manage the development that occurs in anticipation of the Southwest Corridor Light Rail.

Figure 7. BART system map. Pleasant Hill is located on the yellow line in the northeast portion of the map. Source: http://www.bart.gov/stations/index.aspx

The Bay Area Rapid Transit (BART) system is a heavy rail and subway system that serves the San Francisco Bay Area. The Pleasant Hill station is located in Contra Costa County, and is about a 30-minute train ride from central San Francisco. The BART system has a long history of use as a park-and-ride. At many stations, huge surface lots or parking garages surround the boarding platform. Although BART has the fifth-highest ridership of any mass transit system in the country,[40] because of this park-and-ride arrangement many suburban BART stations do not support pedestrian activity. Before the TOD was built, the Pleasant Hill station had a similar dynamic. Viewed as "where you drove to catch the BART," the station was surrounded by an 18-acre surface parking lot. At approximately 6,000 passengers per day it had the most boardings of any suburban station in the system.[41] A 1998 study showed that 74% of riders who boarded at the Pleasant Hill station drove to the station alone.[42] Sixty-five percent of riders took the 30-minute trip to downtown San Francisco while 15% took the train to downtown Oakland.

The key to developing a TOD at Pleasant Hill was transforming the 18-acre surface lot into dense and mixed-use development. Because the station was situated at the convergence of several major roads as well as Interstate 680, the area had become an important employment hub, but it was not until the TOD concept was fully implemented that the area began to reap the rewards of density and mixed uses. Between 2006 and 2010, the area around the Pleasant Hill station underwent a huge

transformation with the construction of the Contra Costa TOD in place of the parking lot. Today, the station boasts the highest concentration of multi-family housing within a quarter mile of any suburban transit hub in northern California. The 125-acre station area has a resident population of approximately 7,000, an employment population of 6,000. Sixty percent of people living in surrounding units said BART was a major factor influencing their move, and 40% use it on a daily basis to commute to work.[43]

Figure 8. BART operates unique rapid transit subway equipment. Source: Author photo.

The Contra Costa TOD could not have been built without a detailed plan that reflects both community and development concerns regarding the design and intensity of the project. The project had to consider both the functionality of the transit system, the context of the area around the TOD, and the mixing of uses within the village, not to mention the interplay between these factors. For example, a landscaped square adjacent to the south side of the station simultaneously serves as a public park and a drop-off point for riders. On the other side of the station is a multi-story parking garage that is hidden from public view by apartments that are "wrapped" around its exterior. The apartments/parking garage is intended to accommodate cars for long periods of time while the public square/drop off area is designed to facilitate circulation and form a "community core," similar in function to the traditional concept of a Main Street. Design concepts such as these simultaneously address traffic circulation, aesthetics, and pedestrian activity. The nexus of the development was to be the transit station; conceived of as a connecting point for rail, bus, automobile, as well as other non-motorized forms of transportation. The combination of employment, housing, and transit combined with well-used public spaces created areas that encouraged pedestrian-centered retail activity and contributed to the area's identity.

The key components of transit-oriented development are a mix of land uses, multiple modes of transportation, the creation of a "place", and a focus on the pedestrian. However, a TOD can take on variety of formats and functions within these principles, especially between different stations along the same transit route. For instance, one station could have a high concentration of office space while another could have a large amount of retail or high-tech industry. Usually there exists some amount of multi-family housing within walking distance of the station. In order to generate a vibrant street atmosphere, public spaces are designed to be walkable and well used throughout the day in order to maintain an informal sense of safety and security as well as to support retail.

Figure 9. Surface parking lot at Contra Costa. Source: Kennedy, Jim. "Patient Capital, TOD, and Public Real Estate Asset Management; Pleasant Hill BART at Contra Costa Center." 10/6/2006.

In addition to implementing the key components of TOD, several other key concepts emerged in the Pleasant Hill station area development that were integral in its success. First and foremost, the TOD concept was not watered down by policies that favored private automobile travel. TOD projects can be derailed by policies that pay token considerations to the pedestrian but make paramount the needs of private motorists. For example, early versions of the Pleasant Hill station area plan called for greater density around the station area and mentioned a need for strong pedestrian connections, but contained no regulatory language to achieve this objective.[44] As a

result, the station was surrounded by the largest surface parking lot in the entire BART system.

Successful TOD also requires careful regulation from the public sector. Policies contained within the Station Area Plan regulate development by creating a framework that dictates use and appearance, but policies are not so strict as to stifle development interests. The goal of the regulations is to create a favorable development climate while ensuring that what is built still contributes to the overall dynamic of the TOD.

Third, collaboration between the public and private sector was essential in the development of the Contra Cost TOD around the Pleasant Hill station. Public/private partnerships allowed each entity to perform the duties for which it was suited. In Pleasant Hill, the public sector was better positioned to assemble land, ease the entitlement process, and handle initial infrastructure and construction costs, while the private sector was more attuned to the real estate market, securing tenants, and deriving viable financing.[45]

Lastly, it is important to note that the transformation from park-and-ride to TOD did not occur quickly. Planning for a mixed-use core of businesses and residences surrounding the station was called for in the 1983 plan, but was not actually implemented until the last phase of the project was completed in 2010. A strong vision and supportive policies eventually steered development in the intended direction, but much auto-oriented growth occurred during the in-between years. TOD scholar Robert Dunphy teaches that TODs should be "future-oriented, but based in reality," stating "successful transit-oriented development is the result of development occurring as it is demanded, not as a first option."[46] Transit-oriented development would not have initially made sense around the Pleasant Hill station because the area was a low-density suburb. Eventually, employment and housing density increases in conjunction with a supportive development framework made TOD implementation a reality. Renderings of tall buildings and intensively used spaces may have seemed out of character when the station was first built in the 1973, but forward thinking and thoughtful planning resulted in TOD supportive land uses 40 years later.

In a suburban context, this type of land use pattern stands in stark contrast to traditional single-use, low-density, and auto-oriented patterns of development, and could have a transformative impact in a place like Minnetonka. Although the Contra Costa TOD and the surrounding developments are quite built up, many comparisons can be drawn between it and the stations proposed in Minnetonka. Both cities are relatively affluent suburbs within communing distance of the central business district. The population of Walnut Creek, CA is 64,000 compared to Minnetonka's 50,000, but both are situated in areas where one suburb unceremoniously flows into the next so the population difference is not as noteworthy. The population density of Contra Costa County is 1,462 persons per square mile while the density of Minnetonka is 1,835, while the median household income in Contra Costa County is $75,000 compared to Minnetonka's $80,000.[47] The Pleasant Hill station is at the convergence of several arterial roads, making it a natural nexus of activity. Likewise, the Shady Oak station in Minnetonka is located near the important intersection of Excelsior and Shady Oak Rd. while the Opus station is near the intersection of US 169 and MN62.

PUBLIC POLICY AND TOD

The Pleasant Hill BART station was built in 1973 near the San Francisco suburb of Walnut Creek. As development around the station area began to intensify, the County of Contra Costa attempted to steer growth and increase planning certainty by drafting a growth management policy for the area in its 1978 General Plan. The plan called for higher densities around the station, and recommended that parcels around the station be assembled into a minimum size of 3-acres.[48] Soon after the adoption of the County plan, the first Pleasant Hill County Specific Plan was drafted in 1983. The Specific Plan was intended to be a bridge between the overarching County General Plan and development proposals. While future Specific Plans would be more detailed, the 1983 plan addressed zoning regulations, capital improvement programs, detailed development standards, and regulatory schemes. Its goal was to create a node at the station surrounded by a mix of activities, but the policies contained within the plan failed to attract the type of development envisioned around the station. The policies lacked clarity about the type, density, and placement of land uses, and failed to consider a parking policy that did not directly contradict land use goals.

Figure 10. Pleasant Hill station soon after construction. Source: Kennedy, Jim. "Patient Capital, TOD, and Public Real Estate Asset Management; Pleasant Hill BART at Contra Costa Center." 10/6/2006.

Between 1983 and 1998 the area grew into an important employment center as well as a major transit hub, but the two uses were relatively separate from one another. In 1998, the Amended Specific Plan was passed as a way to more cohesively integrate housing, employment and transit. Although the Contra Costa TOD would not be built until the next iteration of the Specific Plan, the policies set forth laid the theoretical groundwork necessary to incite discussion on what a TOD would look like at the Pleasant Hill Station. The amended plan took the TOD principles from the earlier plan and added some specificity. Whereas the 1983 plan called for parcel assembly and minimum lot size, the 1998 plan went a step further and divided the station area into 15 development districts, each with its own use and design stipulations. The plan regulated density, height, open space, allowed for the transfer of development rights, and incorporated the recommendations of a 1996 traffic study into specific parking policies. For example, parking was to be replaced at a 1:1 ratio and shared parking was encouraged.[49] The plan included specific policies for both motorized and non-motorized forms of transportation intended to increase mode share, facilitate local transit to and from the station, improve automobile access, discourage through-traffic, and provide safe bike and pedestrian movement throughout the area.

The catalyst for the development of the Contra Costa TOD was a six-day design charrette that took place in 2001. This intensive workshop brought together more than

500 participants, including many elected officials, with the goal of forming a consensus about the form and function of the TOD. Extensive preparation by the planning staff ensured that the sessions remained productive and rooted in reality, and as a result a design was agreed upon that closely resembled what was ultimately built several years later. Although this participatory process created momentum and popular support for the TOD, the 1998 plan still lacked the right combination of incentives and regulatory measures needed to actually spur construction.

In 2002, the Pleasant Hill station was considered the "Heart of Contra Costa County," but massive surface lots still surrounded the station.[50] A new version of the Specific Plan was again adopted with the goal of setting forth policies that would ensure that the product of the public participation process was implemented. Clear objectives were set forth in a thorough a comprehensive development management plan that included action-oriented steps required to meet the objectives, benchmarks used to measure progress, and the parties responsible for each of the goals. The objectives were thorough, directive, and specific, but they were written to be intentionally lenient so developers would not be scared away. One policy reads: "The area north of Las Juntas Way shall be developed as a residential neighborhood with substantial housing opportunities at higher densities in close proximity to the BART station." This particular area is then divided into seven segments, each with its own guidelines, standards, and incentives. For example, the development agreements of one of the districts lists including a daycare in new residential construction as an incentive that entitles the developer to favorable financing arrangements, while another states that the inclusion of 15% housing for very low income residents entitles the developer to tax-exempt financing. Encouraging every price point to live around transit is an important TOD principle conveyed by TOD researchers, and the 2002 Specific Plan contained policies that accomplished this objective.[51]

Figure 11. Plesant Hill station in 2006. Source: Kennedy, Jim. "Patient Capital, TOD, and Public Real Estate Asset Management; Pleasant Hill BART at Contra Costa Center." 10/6/2006.

One of the key principles of TOD at Pleasant Hill was to mix uses, but not necessarily to mix them within the same building. As is discussed in *The New Transit Town*, integrating uses within the same area but not necessarily the same building is perceived as less risky by lenders, so this development strategy is more "buildable" than the textbook definition of mixed-use.[52] Development in this manner also facilitates building management and leasing. The length of blocks within the TOD is capped at 200 feet to ensure that

separate uses will still be proximate to one another and to facilitate circulation. The plan also establishes a design review process that provides increased assurance that what is built will follow not only a prescribed use but also contribute to the vitality of the TOD. Supplements to the Specific Plan were created to address specific architectural guidelines, as well as principles and regulations for redevelopment. For example, the policy calls for architecture that is reminiscent of Northern California Spanish Colonial Revival.[53] Cohesive design will contribute to the sense of place and identity of the station.

Drawing corporate attention was also an important objective in the planning and development process. Extensive marketing campaigns were conducted to secure tenants to fill the large amount of office space that would soon come on-line. As a result, the development attracted several large corporations including AAA and John Muir Health, as well as several hotels and restaurants.[54] Although the retail portion of the project initially lagged because of the economic downturn, as of Spring 2011 the Centre was 98% leased.[55]

A Travel Demand Management (TDM) plan was also put in place by the County to decrease the number of solo drivers. Incentives included periodic cash disbursements by some employers for carpooling and riding the bus, and decreased fares for carpools and vanpools on tolled highways and parking lots. Guaranteed Ride Home, Bike-to-Work, and Midday Shuttle Service programs were also used. Since the implementation of the TDM program, the number of single-occupancy vehicles has decreased by 30%.[56]

Because the Pleasant Hill station and the surrounding buildings were highly auto-dependent before the implementation of the TOD, the streets surrounding the site had a daily traffic count that rivaled many highways. Treat Blvd, the southern boundary of the Contra Costa TOD, was six lanes wide and accommodated 125,000 cars every day.[57] Decreasing the capacity of this important thoroughfare was not an option, but the plan created several policies intended to transform Treat Blvd into a people-friendly street. The plan called for street trees, wide sidewalks, benches, human-scaled streetlamps, window requirements, a pedestrian bridge, and most notably, on-street parking. Since maneuvering in and out of parking spaces would be a major hazard on Treat, a buffer area was created between the parking spaces and the vehicle right-of-way. The buffer achieved two important goals: it accommodated on-street parking without disrupting the traffic flow and it created distance between the sidewalk and the street to enable the sidewalk to be more amenable to pedestrian-focused activities. Interestingly, the final agreement permitting on-street parking contained a provision that would allow the buffers to be removed if it was found that they disrupted traffic.

When the Contra Costa TOD was finished it included 422 apartments, 85 of which were affordable, 100 condos, 35,590 square feet of retail, 19,400 square feet of business convention space, and 270,000 square feet of retail.

PROJECT FINANCING

Creating a TOD out of an 18-acre parking lot raised several financial challenges that could not have been overcome without cooperation between BART, the County, and the private sector. Although BART owned the land that was to be developed,

they alone did not have a strong incentive to redevelop the parcel. The Pleasant Hill station was the busiest suburban station in the system, so an expensive and long construction period would not have been desirable to undertake single-handedly. Private development interest in the site was low because redeveloping the site could not be accomplished without replacing the lost parking spaces with an expensive structured parking garage. TOD considers a site in terms of both its access to transit and relationship to adjacent land uses. Because these goals were contradictory at the Pleasant Hill station, establishing a public/private partnership was essential in order to plan, regulate, and finance the development of a TOD. The County realized that its goals could not be achieved without a substantial up-front investment and the creation of a public/private partnership.

The key public player in the early stages of development was a local government body called the County Redevelopment Agency (RDA). The RDA was responsible for attracting desired development, reconstruction, and rehabilitation in Contra Costa County.[58] BART leased the property to the RDA, who in turn leased the property to developers. With a deal structured in this manner, both BART and the RDA could use lease payments as a way to secure a long-term revenue stream. After the final phase of the project was completed, Contra Costa County Supervisor Susan Bonilla stated, "We have come to realize that government cannot effectively respond to all needs and expectations. Public/private partnerships encourage private responsibility and mobilize private resources for public goods. The public/private partnerships used to develop the property helps to generate more transit ridership for BART, provides a new source of income for the County, and helps the region accommodate future growth in an environmentally sustainable manner."[59]

The first hurdle was the financing of a parking garage that would replace the spaces lost from the surface lot. The RDA supplied the majority of the $45 million dollars required for this Phase I project through the sale of tax-exempt bonds, and raised additional capital in Phases II and III by creating an assessment district in the broader station area and through development impact fees. In later stages of construction, the RDA financed infrastructure improvements while private equity was primarily used to fund construction.[60]

During the 2001 charrette, development guidelines were derived that illustrated how TOD goals and development interests can align to meet the needs of both parties. These guidelines formed the economic rationale behind the policies that define the land use mix at Contra Costa. One guideline states "at least 200 residential units are needed to support amenities and reduce ongoing operating costs," while another says, "Class A office building's floor plates should be between 20,000 and 25,000 square feet to maximize its efficiency."[61]

The specific financial arrangement for each element of the Contra Costa TOD is unique depending on its use and place in the development timeline. Private money was used almost exclusively in the later phases of the project while public money was used initially to get things going.

CONCLUSION

Planning for transit-oriented development must have an eye on the future, but be grounded in the present. Idealistic images of outdoor cafes and local shops lining a public square adjacent to a bustling transit station are inspiring but often unrealistic. On the other hand, a station surrounded by acres of parking or auto-oriented uses may preclude the eventual development of more sustainable land uses down the road. Reinvestment will occur around the station area, and the station will be around for many years. For these reasons, long-term goals must be integrated into the development policies and guidelines that will be in place when transit arrives. This is especially important in a suburban context because the land use patterns associated with transit and suburbanization are so different.

Suburbs present unique challenges because they are low-density, have discontinuous street patterns, poor sidewalk systems, and have a population that is not traditionally as dependent on transit as central city dwellers. In addition, redevelopment in a suburban setting will often involve a long approval process, demolition, site cleanup, and building constraints. At the Pleasant Hill site, these issues prevented TOD until a public/private partnership was created in the early 2000s.

As demonstrated in Pleasant Hill, the transition from suburb to TOD does not occur all at once. Therefore, elements like parking need to be considered as an area moves from auto-dependent to a more diversified array of transportation options. Maintaining a compact form, walkable environment, and aesthetic appeal cannot be achieved when too much land is devoted to parking. Creating a park-and-ride dynamic may result in stable ridership and marginally less automobile traffic, but the benefits are primarily exterior to the suburb. By developing employment centers around park-and-rides, as was the case around the Pleasant Hill station until the mid 2000s, some density build-up can occur but it will still be auto-oriented if the station is only accessible by car.

Contra Costa became a model TOD because it created a framework for development that addressed the concerns of a variety of stakeholders. Individually, BART, the Contra Costa RDA, and the private sector could not have developed this project without the support of the other two. Decades passed until the goals set forth in the initial Specific Plan were realized, but once the regulations and incentives were structured in the right way, the development happened rather quickly. It is possible that the Contra Costa TOD was built because the area had finally generated enough employment and housing to support mixed-use retail. However, this possibility strengthens, rather than diminishes, the importance of sound policies. TOD plans must be future-oriented and reality based, and TOD successes are the result of development occurring as it is demanded, not as a first option.[62] A framework was put in place that steered the direction of the area, and when the demand was there, the TOD could be implemented. In Minnetonka, both station areas are many years behind where the Pleasant Hill station was when the Contra Costa TOD was built, but by following a similar policy direction, they can establish a framework for development that could reshape their identity from an auto-dependent suburb to an exciting hub of activity.

Lessons Learned

TOD TAKES TIME

The decision to initially utilize Shady Oak as a Park-and-Ride parallels the early development of Contra Costa. Like Contra Costa, Minnetonka should not expect the transition from transit stop to full-blown TOD to happen all at once, but they must not preclude it from happening later based on what can get built today. Transit-oriented development would not have initially made sense in Contra Costa because the area was a low-density suburb, but employment and housing density eventually increased to a level where transit-oriented development was feasible.

CREATIVELY INTEGRATE LAND USES

Maintaining a compact form, walkable environment, and aesthetic appeal cannot be achieved when too much land is devoted to parking, but in a compact environment, creative design solutions are essential. Contra Costa wrapped its parking garages with apartments and created a public square that serves as a connecting point for different modes of transit as well a community square. When planning Shady Oak and Opus, be sure to consider the spectrum of uses ranging from hurried commuters arriving by car to casual walkers. Land uses that lean too far toward one end of the spectrum may make an inefficient use of limited space.

HORIZONTAL MIXED USE IS LESS RISKY

Integrating uses within the same area but not necessarily the same building is perceived as less risky by lenders, so this development strategy is more "buildable" than the textbook definition of mixed-use. Transit-oriented development is a relatively new concept in the Twin Cities, so many developers and lenders are inexperienced with this type of land use. Constructing single-use buildings that are proximate to one another but not necessarily combined will be easier to finance, develop, lease up, and manage.

PUBLIC/PARTNERSHIPS

Collaboration between the public and private sector can be beneficial because it allows each entity to perform the tasks for which it is best suited. The public sector was better positioned to assemble land, ease the entitlement process, and handle initial infrastructure and construction costs, while the private sector was more attuned to the real estate market, securing tenants, and deriving viable financing. Minnetonka should assume the leadership role, but seeking the help of experts in their respective fields will result in policies that are well thought out and comprehensive.

HAVE A DEVELOPMENT MANAGEMENT PLAN

TOD plans can be watered down by policies that favor private automobile travel, and projects can be derailed by policies that pay token considerations to the pedestrian but make paramount the needs of private motorists, illustrating the need for strong regulatory language. TOD wasn't built at Contra Costa until a Development Management Plan was created to explicitly describe the steps required for TOD implementation. Objectives that have the best chance of being accomplished contain explicit policy language, measurable steps, and the parties responsible for their completion.

DALLAS
TEXAS

Location: Mockingbird Station is located four miles north of downtown Dallas, TX.

Size and Density: Dallas is 341 square miles with an overall population density of 3,518 persons per square mile.[63]

City Population: The 2010 population was 1,197,816.[64]

City Income : The 2007-2011 median household income was $42,259.[65]

1/2 mi Pop: 4,772 (2,738 households).[66]

1/2 mi Income : $44,842[67]

Mode: LRT and Bus

TOD Facts: 10 acre redevelopment with 200+ apartments, 500,000 square feet (SF) of rentable building area, 178,000 SF retail, 137,000 SF office space, and 520,000 SF of parking (1,580 parking spaces).[68]

Station Opening: 1997[69]

TOD Opening: 2001[70]

Selected because: Mockingbird Station was selected as a relevant case because of its dual auto and transit-orientation. It also provides an interesting example of how a privately owned redevelopment project fundamentally changed Dallas' policies for encouraging TOD throughout the region.

Image source: http://www.mockingbirdstation.com/info/loftgallery

CONTEXT

Dallas is located in northeastern Texas and is the third most populous city in the state. The sprawling city is home to an extensive transportation network that is largely auto-oriented. Interstates 20, 30, 35E, and 45 provide automobile access throughout the area. Over a dozen other state and U.S. highways complete Dallas' extensive hub-and-spoke highway system. Despite the prevalence of this auto-oriented infrastructure, the Dallas-area public transportation authority, Dallas Area Rapid Transit (DART), has taken the lead in promoting alternative modes of transportation that encourage economic development. DART was created in 1983 to organize and promote bus, commuter rail, and light rail transit. It is funded by a local one-cent sales tax.[71]

Figure 12. Dallas' DART Rail System. Mockingbird station is located northeast of downtown at the junction of the Red/Orange Line and the Blue Line. Source: http://www.dart.org/maps/printrailmap.asp.

DART's LRT system debuted with its Red Line and Blue Line in 1996. These Lines initially served the area's transit dependent populations and employment centers causing ridership to exceed original projections and for the public to encourage an expedited expansion of the original network.[72] This public response also lead to the construction of the Green Line and Orange Line into the area's surrounding suburbs.[73] To date, the entire network has 61 stations situated along 85 miles of rail.[74] More information on DART can be found at https://www.dart.org.

Although Dallas is home to a popular and largely successful LRT network, City officials have not always embraced TOD projects for its LRT stations. Unlike other cities that encourage TOD development through a series of approval, funding and entitlement processes, the City of Dallas opted to "let the market decide" if TOD projects would be successful at its original stations. This "hands off approach" was due to the fact that TOD was a relatively new and untested development concept in Texas. As a result of this development climate, private developers took the lead on TOD projects along DART's stations.

Mockingbird Station, which opened in 1997, was DART's largest at the time and is located in a densely populated area near Southern Methodist University. It provided access for DART's Blue and Red Lines and had an ample parking supply of over 700 spaces. This abundant supply was available at no charge and was meant to entice auto-dependent users to utilize original and future LRT and bus services.

Recognizing the development potential of the area, Ken Hughes of UC Urban opted to create an iconic and easily recognizable place by adopting the DART station's name for his own TOD project. Becoming the state's first mixed-use TOD project, Mockingbird Station, was developed by Hughes and designed by RTKL Associates.[75] The project is directly linked to an adjacent DART station via a pedestrian bridge. The project, which started in 1997, was constructed on a narrow piece of land between the Dart Station and Mockingbird Lane. The land's size and shape challenged designers to create a project that was both auto-oriented and pedestrian friendly. This was accomplished by locating most of the project's 1,500 parking spaces underground. Throughout the course of its construction, numerous financial and design changes were made before it finally opened in 2001. Since its completion, the project has been identified as a success and has received numerous urban design awards.

As a result of this achievement, stakeholders have reassessed their approach to TOD in the Dallas area. Today, TOD is largely recognized as an economic and cultural development tool for DART communities. This approach has been especially apparent in Dallas' competitive suburban communities. Suburbs like Plano and Addison have used TOD as the primary means to balance their tax bases and to redevelop their community profiles.[76]

Figure 13. The platform at Mockingbird Station is below grade and accessed via a pedestrian bridge. Source: http://bizbeatblog.dallasnews.com/files/2012/09/NED_24VIEWPOINTS_44731_34639012.jpg.

FORMER LAND USES

The Mockingbird Station project was developed on a 10-acre lot located just east of the North Central Expressway at Greenville Avenue and Mockingbird Lane. The project began in 1997 when Ken Hughes of UC Urban privately purchased a 7-acre site containing the abandoned Western Electric Building on Mockingbird Lane. The following year, while still going through the design process, the developer purchased another 3-acre site that contained the Guaranty Federal Bank building and parking structure. The 1998 purchase was key to ensuring that the parking needs of the development could be met.

ADAPTIVE REUSE CONSTRUCTION

A key element of Mockingbird Station is the adaptive reuse of existing buildings, which contributes to the area's vitality. The Western Electric Building was renovated and additional stories were added in order to construct 200+ loft-style apartments. Many of building's windows were maintained and much of its brick was exposed in order to preserve the original industrial look of the building. To further solidify the industrialized theme, the building utilized an arched roof that was influenced by 19th century rail stations.

The Guaranty Federal Bank building was renovated and expanded in order to create an extensive retail, restaurant and café experience at the project site. Hughes' approach was unique in two ways. First, he redeveloped the first floor of the existing parking structure into retail space. Second, he ensured that the first three levels of the existing office building were converted to retail while the upper floors were maintained for office space. In doing so, he created a vibrant connection between existing and new construction.

Figure 14. The former Western Electric Building, renovated with additional floors and a brand new roof. Source: http://www.mockingbirdstation.com/info/loftgallery .

Figure 15. Mockingbird Station's pedestrian bridge provides access to the Mockingbird Station village. Source: http://www.nctcog.org/trans/sustdev/bikeped/access_to_rail/Photos_large/Mockingbird%20Station.jpg.

Figure 16. Stairs leading to the Aneglika Movie Theatre." Source: http://farm5.staticflickr.com/4152/4832861946_50bc3d9866.jpg.

NEW CONSTRUCTION CHALLENGES AND DESIGN

Hughes first new construction design challenge was rectifying the absence of a pedestrian connection from the Mockingbird Station platform to his project area. Since the DART station was already operational, there was no cheap solution for providing access to the below grade platform. However, after working extensively with DART engineers, a design for a pedestrian bridge was approved. However, Hughes received no public subsidies for the construction of the pedestrian bridge from the City or from DART.

Brand new construction on the project site occurred largely in the area directly linked or adjacent to this bridge. Rather than orienting the project outward towards the area's heavily trafficked arterial and highway grid, Hughes opted to locate the project's primary facade towards the transit station. This approach was unique and considered risky because of its direct transit-orientation[77] but ultimately turned into one of the project's defining features and reasons for its enduring presence.

Project amenities include an 8-screen movie theatre and a wedge-shaped restaurant pavilion. The two structures host much of the site's below-grade parking. A grand staircase provides access to the lofts, office space, retail, restaurant, and other amenities located throughout the project.

FINANCING

The Mockingbird Station project is unique because it was the first TOD project in Texas. Because of this, both the City of Dallas and DART did not have any public subsidy programs in place to support its development. Thus, the entire project, including its internal infrastructure of streets and parking was privately funded. The State of Michigan Employee Pension Fund provided funding for the project until 2005. Since then, a private European investment group has owned the project.[78]

It is important to note that the developer lost an undisclosed amount of money throughout the construction of the project. Many stakeholders speculate that the costs of building below-grade parking played a significant role in the developer's losses.

ZONING FRAMEWORK

Hughes benefitted from the fact that his project site was already zoned for mixed use. This was not the result of any preparatory planning by the City for TOD. Hughes simply inherited the area's previous land uses and zoning framework. As a result, he didn't have to adjust his project drastically in order to meet any specific TOD based zoning codes or ordinances. Even though he had few regulatory restrictions, Hughes "policed himself" by carrying out his transit-oriented vision for the project. He recognized the value of TOD and knew that he had to "get it right" in order to win over his critics.

In 1997, city officials did not believe that Hughes's project was going to be successful and as a result, let the developer proceed virtually unabated. The City provided no input on Hughes's project design or vision. Coordination between Hughes and the City was limited to two things: resolving pedestrian access from the adjacent DART station and agreeing on minimum parking requirements.

PARKING

At the core of Hughes's project was the concept that the project needed to be oriented towards both automobile and pedestrian use. His adaptive reuse of the site's existing parking structure and the abundance of below-grade parking are testimonials to this vision. Although Hughes acknowledges that he could have pursued a mixed-use parking reduction credit that would have reduced the required amount of parking spaces, he opted to provide an ample supply in order to forgo any project delays and to ensure tenant satisfaction.

To date, over 1,500 parking spaces are available throughout the site. Hughes estimates that his oversupply of parking saved him project delays but probably cost him more than $1 million in development costs.

Figure 17. "The Lofts" at Mockingbird Station Source: http://www.mockingbirdstation.com/info/loftgallery.

PROJECT CRITIQUES AND CONTINUED REDEVELOPMENT

The Mockingbird Station project has two primary shortfalls. The first is its lack of pedestrian connections to its surroundings.[79] This is largely due to the fact that the perimeter of the project is dominated by busy roads. A proposed extension of a nearby hike-and-bike trail would greatly improve the project's connectivity to its surroundings.[80]

The project's location near the North Central Expressway and Mockingbird Lane contributes to its second shortfall: noise pollution caused by vehicle traffic. Originally, the construction of an eighteen-story hotel was going to rectify the issue by providing noise insulation for the site.[81] However, due to a slowing economy, the hotel was never built. Instead, a two-story retail space with its own parking garage was constructed in its place in 2007.[82]

Figure 18. "The Lofts" at Mockingbird Station. Source: http://www.apartmentninjas.com/assets/apartments/2874/mockingbirdstation-exterior.png.

TAX INCREMENT FINANCING

It wasn't until suburban communities like Plano started capitalizing on its DART stations through the use of tax increment financing (TIF), that the City of Dallas "woke up" to the idea of promoting TOD through the use of public subsidies.

Under the helm of a new planning director, the City of Dallas created a TOD task force and established a TOD TIF District in 2008. According to the TOD TIF Project Plan, the district provides an example for other TODs and station areas in central Dallas.[83]

The bulk of this case was drawn from a phone interview with Jack Wierzenski, the director of economic development for Dallas Area Rapid Transit (DART), who has been involved in the development of Mockingbird Station from the beginning of the project.

Lessons Learned

PARKING MATTERS

The Mockingbird Station TOD provides a number of important lessons for providing an adequate parking supply. Rather than creating a place dominated by surface lots, its developer provided ample below-grade and structured parking that was both auto-oriented and pedestrian friendly. The project's only remaining surface parking lot was reserved for future development after the project site had matured.

Although Minnetonka lacks the population density and retail demand that would make below-grade parking a financially sound option, structured parking at its Shady Oak LRT station could prove worthwhile. Structured parking could be pursued in two different ways.

First, a surface parking lot could be provided at the site and be replaced by structured parking after the TOD had matured. This approach would be cost effective in the short term and ensure transit ridership and developmental goals could be achieved. However, this "wait and see" method might result in the incompletion of long-term development plans. A second approach could utilize TIF to help finance a structured parking facility adjacent to the LRT station. This parking structure could offer limited mixed-use development on the first floor while still providing the parking capacity needed at the site.

DEVELOPMENT ORIENTATION

Mockingbird Station's design is unique because the project's new construction efforts and primary orientation were focused towards its transit station. This orientation essentially made the transit station the "front door" of the development.[84]

Minnetonka's future development plans need to capitalize on the importance of orientation. For example, if the City opts to bring its Shady Oak platform closer to Minnetonka Boulevard, it will guarantee that its transit investment and the associated TOD are highly visible to its users.[85]

DYNAMIC DEVELOPERS ARE NEEDED

Ken Hughes was a visionary developer who successfully navigated the untested waters of TOD in the Dallas area. He successfully completed a project that many thought would never come to fruition and in doing so, inspired developers and public agencies nationwide. At the local level, Hughes's project led to the creation of public policies and subsidies used to promote TOD.

Relative to the City of Minnetonka, TOD remains an unproven concept. Thus, the City needs an innovative and charismatic developer like Hughes to take the lead with its TOD opportunities. Dealing with developers that are familiar with quality TOD designs will help ensure that obvious planning oversights can be avoided. Additionally, experienced developers can help secure the necessary financing and public support needed to complete a development.

TIF FINANCING

Ken Hughes utilized private funding to complete the Mockingbird Station project. This afforded him the ability to forgo lengthy approval processes and complicated public-private arrangements. Despite the simplicity of this approach, it ensured that the developer lost an unknown amount of money on the project due to the costs associated with infrastructure construction. Additionally, because Hughes didn't have to abide by any regulatory guidelines normally established through the use of TIF, his project theoretically could have been completed without its transit-oriented emphasis. For example, he could have pursued a development that solely orientated its efforts towards the heavy automobile traffic of Mockingbird Lane. Hughes was a TOD visionary and the City benefitted from his self-policed efforts to create a lively multi-modal destination-even when it resulted in his own profit losses.

Looking towards Minnetonka's opportunities, TIF should be considered as a means to reduce overall development costs and to promote responsible TOD design.

REALISTIC EXPECTATIONS OF TODS

The success of Mockingbird Station lead some public officials to believe that there was a direct and uncompromising correlation between LRT stations and TOD project success stories. As a result, many officials throughout the Dallas area thought replicas of Mockingbird Station could easily be created.

However, Mockingbird Station remains unique in TOD history. Its adjacency to its LRT station is simply one part of a very complex equation for success. The project benefitted from its high population density, affluent residents, location near a major university, ease of automobile access, and developer's vision and financial backing.

The City of Minnetonka has some of the variables present at Mockingbird Station, though on a smaller scale than in Dallas. These include auto access, a relatively affluent population, and trail access. Minnetonka needs to be realistic about its expectations and opportunities associated with its future TODs and already appears to understand that LRT alone is not a panacea. The City's challenge will be leveraging these assets into a competitive development opportunity.

ADAPTIVE REUSE

Lastly, the developer re-appropriated the first floor of the project's existing parking structure for retail use. These techniques help the geographically constrained development remained an attractive and lively destination for its users.

TOD + MTKA

CHAMBLEE
GEORGIA

Location: Chamblee station is located in the Atlanta suburb of Chamblee, GA, 11 miles northeast of Downtown and five miles northeast of Buckhead's Lindbergh and Lennox Stations.

Size and Density: The city is 3.18 square miles with an overall population density of 3,115 persons per square mile.[86]

Population: The 2010 population was 9,892.[87]

Income : The 2007 - 2011 median household income was $54,819.[88]

Mode: Rapid transit subway

TOD Facts: Approximately 160 acres of infill and redevelopment consisting of loft-style apartments, townhomes, and retail.

Station opening: 1982

TOD opening: 2001

Selected because: Chamblee represents what is possible regarding TOD in a complex site with limited public resources available to facilitate private investment. The station area was also selected because of its similarity to Shady Oak in Minnetonka, consisting of large and small parcels of light industrial and automobile-oriented small retail.

Image source: HouseHunt, Inc. The Lofts at 5300 Peachtree. 2013. HouseHunt, Inc. Web. 19 Feb. 2013. http://www.5300loftsatl.com/.

INTRODUCTION

This case study examines the city of Chamblee, Georgia to assess its redevelopment strategy focusing on Transit-Oriented Development (TOD) near the Metropolitan Atlanta Rapid Transit Authority (MARTA) Chamblee Station on the Gold Line. Although less-celebrated than more renowned examples of TOD, Chamblee provides an invaluable lesson for Minnetonka by demonstrating the effect of policies that pay token consideration to the pedestrian but make paramount the needs of private motorists. Chamblee contains all of the essential elements for successful TOD – location efficiency, walkability, a rich mix of choices, and a balance between node and place – but only a qualifying amount of each element exists.

Figure 19. MARTA system map. Chamblee is the next-to-last stop on the Gold Line in the northeast portion of the map. Source: http://www.itsmarta.com/uploadedFiles/Schedules_And_Maps/Rail_Map/MARTARailMap2010.pdf

Figure 20. Postcard of Camp Gordon in 1966. Source: eBay.

BACKGROUND AND CONTEXT

At first sight Chamblee, Georgia seems like an unlikely candidate for a successful TOD program. An inner-ring suburb in the notoriously auto-dependent and sprawling Atlanta Metropolitan Area, Chamblee was arguably a poster-child of post-World War II suburban development. The community grew from a sleepy railroad junction at the dawn of the twentieth century to a bustling military town during World War I,[89] centered around newly-established Camp Gordon, occupying what is today the DeKalb-Peachtree Airport.[90] This infusion of large numbers of military personnel led to the development of what is now the city's historic core along Peachtree Road.[91] Chamblee's military identity reemerged during World War II with the repurposing of Camp Gordon as a naval flight training center and hospital.[92]

Following World War II, the urban area of Atlanta expanded into the community. In addition to the development of suburban single-family neighborhoods, the growth of Atlanta also led to the development of Chamblee's industrial areas, many of which serviced the nearby Doraville General Motors plant that opened in 1947.[93] For the thirty years following World War II, Chamblee boasted a strong industrial tax base with plenty of jobs.[94]

With the economic downturn of the late 1970s and early 1980s, Chamblee's fortunes began to diminish. Several large plants in the city downsized or closed, laying off hundreds of workers and shrinking the city's once-mighty tax base.[95] To make matters worse, young families began leaving Chamblee for the newly developing suburbs further north.[96] This led to a demographic shift as immigrant families repopulated Chamblee's neighborhoods, drawn by the prospect of affordable housing and access to jobs in Atlanta.[97] Rather than fight these changes with exclusionary policies, the city council retooled its zoning to better serve the needs of its new citizens.[98] The council created the International Village Overlay District, the first zoning code in the Atlanta Metropolitan Area championing mixed-use and pedestrian-oriented development. [99] Chamblee's redevelopment initiatives were jump-started when MARTA extended its Northeast Line into Chamblee Station in 1986.[100]

INNOVATIONS IN REGULATIONS

After garnering national attention in the 1990s with the creation of its first overlay district, the International Village, the City has since created five additional "Character Areas" to guide redevelopment policy.[101] This study focuses on the regulations and redevelopment occurring in the Mid-City Character Area, as this community most closely resembles the development context of Minnetonka's proposed Shady Oak Station Area.

According to Chamblee's Comprehensive Plan, the Mid-City District "is at present the primary area for infill and redevelopment within the city and is the geographic center of town."[102] The district is composed of a range of uses including "small and large auto dealers and repair, retail, office, warehouse/industry, apartments, lofts, and condos." [103] The district is central to Chamblee's redevelopment strategy both due to its centrality and the presence of MARTA's Chamblee Station on the district's southern edge.[104] As one travels north away from the station the landscape becomes much more suburban, with segregated land uses dominated by large plats of industrial warehouses and strip commercial retail establishments.[105] Though the city has had significant success in fostering TOD-style redevelopment in the inhospitable environment of aging mid-century industrial warehouses and small-plat auto-oriented retail, a 2000 Livable Cities Initiative (LCI) study found that access to the MARTA station "and other pedestrian linkages were unfriendly to pedestrians [and] bicyclists".[106] In response to the LCI study, the city revised its overlay plan "to establish design standards, parking requirements, and guiding principles for two different mixed use orientations within the Mid-City District."[107] The City divided land uses into either strictly pedestrian oriented or an amalgamated pedestrian and auto-oriented use, depending on the location.[108] The City created a list of essential criteria for new development in the district:

- All development must address the street, including an appropriate front building façade.
- Parking should be located to the side, rear or underground whenever practical and shall be buffered and screened by landscaping from any pedestrian view.
- First floors of buildings should be built at pedestrian scale, including architectural elements.
- All developments must provide appropriate open space and connect into established or planned pedestrian/bicycle linkage plans in the City.
- Utilities, loading and trash collection areas must be screened.
- Residential privacy and buffering standards must be incorporated within the district.
- First floor retail, services and offices are highly encouraged within the district.[109]

Other development principles included categories related to primary land use patterns, design standards, as well as strategies the City would pursue to encourage the implementation of the development principles.[110]

REDEVELOPMENT

The redevelopment of Chamblee's Mid-City Character District began in 2001 with the LCI plan for the Mid-City as a part of the larger LCI study.[111] The plan involved additional funding from the Atlanta Regional Commission to jump-start the redevelopment of

Figure 21. Chamblee today. Source: Google.

Figure 22. View of the Mid-City Character Area today. Source: Google.

Figure 23. Chalfont on Peachtree Townhomes. Source: CondoAtlanta.com.

Figure 24. Chamblee Super Wal-Mart. Source: GoogleEarth.

Figure 25. Typical Super Wal-Mart. Source: GoogleEarth.

abandoned, forlorn industrial sites in the district.[112] The first such redevelopment project was launched in 2000 when MARTA released surplus parking lots near Chamblee Station for redevelopment.[113] The Chalfont on Peachtree Townhomes development includes twenty-five brownstone condominiums that are marketed in the $300,000s.[114] The following year Phase I of the Peachtree Malone Lofts was initiated.[115] This project involved the redevelopment of two closed distribution warehouses into 34 loft-style residential condos.[116] The second phase of the project began in 2003 and included 100 additional units, all aimed at the young professional demographic.[117] By 2005 two more TOD projects had come online including the Chamblee Senior Apartments, offering 65 affordable senior housing units, and The Lofts at 5300 Peachtree, a mixed-use building adding 242 loft-style residential condominiums across from MARTA's Chamblee Station.[118]

In 2005 Wal-Mart came forward with a proposal to construct a large Superstore on an abandoned greyfield site.[119] This project was unique among the post-LCI development proposals as it presented a significant test of the City's resolve in promoting TOD principles. The initial development proposal was for a standard Superstore design with abundant surface parking and an onsite Tire Lube Express auto service center.[120] Following negotiations with the Chamblee Citizens Development Review Board, Wal-Mart offered to remove the auto service component, reduce its footprint by 11,000 square feet, install a greenway connection, and place 74-percent of its parking underground.[121] Additionally, the development would include 40,000 square feet of additional outparcel retail along Chamblee Tucker Road, complete with pedestrian courtyards between the building.[122]

Despite the significant concessions from Wal-Mart, the development was not without its critics. Many citizens were concerned that the store would encourage automobile traffic and did not comply with the City's master plan. Larry Dingle, the Wal-Mart representative from a local law firm, contended that while the new design is more pedestrian friendly, the outparcel buildings did not engage the street; opting instead for courtyards between the buildings to connect the side entrances to rear parking.[123] The result is sadly disappointing as numerous opportunities to turn Chamblee Tucker Road into a pleasant, pedestrian-oriented shopping promenade were missed. The outparcel buildings have numerous tenants and include at least two restaurants yet the display windows and café-style sidewalk dining areas necessary for an interesting and vibrant pedestrian experience are either tucked away behind landscaping berms or raised high above street-level, lending nothing to the sidewalk but a blank brick wall. This contrasts with other Chamblee redevelopments, such as The Lofts at 5300 Peachtree. This development includes retail and residential common areas that engage Peachtree Road and make for an interesting and inviting pedestrian experience.

In the first decade of Chamblee's efforts to reinvent its Mid-City District as an attractive, TOD community, the City has had numerous successes to boast about and learn from. Just as importantly, the City has also demonstrated how overly compromising on these principles can result in undesirable or less than ideal development.

SUCCESSES AND SHORTCOMINGS IN CHAMBLEE

Effective TODs boast "frequent, high-quality transit service, good connections between transit and the community, and community amenities and a dedication to place making."[124] Chamblee certainly has access to frequent, high-quality transit through its MARTA station. According to MARTA's website, trains typically pass through Chamblee Station every twenty minutes in off-peak times and every fifteen minutes during rush hours.[125] Additionally, the station is centrally located in Chamblee and the Mid-City District, though sidewalk access and the pedestrian experience rapidly deteriorate outside of Mid-City. The Keswick Park Extension Trail provides a connection to Chamblee's largest park just north of the district.[126] The availability of retail services is very high in the district, with TODs providing interesting pedestrian experiences through ground floor restaurants and stores. However, there is still a noticeable absence of parks and other public gathering spaces or amenities, a detail that needs to be addressed in coming years. Future provisions of civic centers and the continued implementation of TOD should aid in Chamblee's place making efforts in Mid-City. The City's efforts thus far have managed to attract several TODs, noticeable for being entirely market-driven, in addition to persuading a major national retailer to conform to the City's vision, to a greater extent than it has elsewhere, for a pedestrian-friendly community.

Figure 26. Primary outparcel building, separated from street by berms. Source: Google.

Figure 27. Courtyard business entrance with a lack of street engagement. Source: Google.

THE NODE-PLACE BALANCE

As the City's comprehensive plan indicates, "The Chamblee MARTA station is a primary traffic generator in the area."[127] However, the recent completion of Park-and-Rides at other stations has reduced the number of riders arriving by car to the point that bus riders now exceed those arriving by car.[128] An important complication in resolving the tension between node and place relates to the station's design. Completed in 1984, the modernist station design stretches linearly along the transit right-of-way and "functions as a half-mile long barrier for pedestrians."[129] While MARTA is planning to address this problem,[130] the station still serves as a barrier between Mid-City and International Village. Station access points are located near sidewalks and include small plazas, ensuring that the pedestrian is at least equal to other users arriving by car or bus.

Figure 28. Corner restaurant with outdoor dining,. The street level is unengaged. Source: Google.

LOCATION EFFICIENCY

Location efficiency is one key element of TOD and is defined as "the conscious placement of homes in proximity to transit systems."[131] For true location efficiency, the development must be within close proximity to transit and provide a level of density sufficient "to allow the system to run efficiently."[132] The development must also be located within close proximity to residential and commercial areas and must provide

Figure 29. The Lofts at 5300 Peachtree with an engaged street. Source: HouseHunt, Inc. : http://www.5300loftsatl.com/.

a quality level of pedestrian access and service.[133] In terms of location efficiency, the entire Mid-City District is within a hypothetical short walk from Chamblee Station. Furthermore, pedestrian access is facilitated by a network of sidewalks connecting the residential and retail developments to the station. For new developments, Chamblee requires the developer to provide adequate sidewalks on both sides of the street.[134] While this means that all of the recent TODs in the city have adequate sidewalk provisions, there is still a discontinuity of sidewalks, particularly around older developments. Still, an analysis of the sidewalk network shows that a pedestrian may access Chamblee Station from any of the new TODs in Mid-City with few necessary detours by using the current sidewalk network. As a regional park-and-ride, densities around Chamblee Station have less of an effect on the station's efficiency than they would otherwise. Regardless, densities in Chamblee average 2.21 households per acre,[135] a rate far below what is necessary to efficiently sustain transit.[136]

RICH MIX OF CHOICES

A rich mix of choices in TODs is also crucial to the success of a project. The term refers to the provision of "many activities within walking distance for those who do not drive…, people who cannot afford cars, and people who choose not to rely on cars to get around."[137] One way to evaluate this is by looking at the Census Bureau's data on car ownership among Chamblee households. According to the most recent data, 44.6 percent of households had two or more cars, 43.7 percent had only one car, and 11.7 percent had no vehicles available.[138] This compares to DeKalb County as a whole where 49 percent of households had two or more cars, 41.5 percent had only one car, and 9.4 percent had no vehicles available.[139] While it appears that, perhaps for a variety of reasons including transit and TODs, Chamblee residents are less likely to own cars or multiple cars, the decision to purchase or not purchase a vehicle is not far below that of suburban DeKalb County. This suggests that the need for access to cars is still prevalent despite the presence of a large MARTA station and TODs. Despite problems related to street engagement, the new Wal-Mart offers residents a nearby and pedestrian accessible full-service supermarket among other retailers located in the outparcel buildings.

RELEVANCE FOR MINNETONKA

Like Chamblee's Mid-City District, Minnetonka's Shady Oak Station Area is composed of fragmented parcels dominated by light industrial and auto-oriented retail uses. Also like Chamblee, Minnetonka has indicated an interest in attracting younger families and creating environments where seniors can remain in their communities beyond their capabilities to safely operate a vehicle.

One lesson that Chamblee illustrates is the market demand for TOD even without government incentives. Thus far, Chamblee's TODs have been entirely market-driven. Chamblee has pursued an inclusive development strategy that allows for infill development in addition to compatible redevelopment within single-family residential areas.[140] Chamblee has also laid the groundwork for denser, more pedestrian-friendly development in the future by requiring new construction to engage the street and provide pedestrian facilities.

Related to this is importance of perseverance against proposals that do not fit in with the community's vision for itself. Chamblee was able to win a respectable amount of concessions from Wal-Mart in the Superstore chain's proposed development. However the end product fell short of fulfilling the development's potential. While the outparcel buildings were successful in creating a street wall composed of human-scaled architecture, the buildings did little to engage the street and instead gave precedence to users arriving from the central parking lot. Minnetonka can learn from this episode that large corporations like Wal-Mart are willing to negotiate if the site is sufficiently attractive. But more than that, cities should not be afraid to insist that pedestrians have as much if not more gravity in the buildings' orientations. By making the customers at the Wal-Mart development walk just a few feet further to the retailers' doors, the site would have been immensely successful in encouraging pedestrian activity and street life along Chamblee Tucker Road.

CONCLUSION

Chamblee is still a work in progress. More mixed uses, higher densities, and a greater continuity of the sidewalk network will help to give Chamblee greater location efficiency, a richer mix of choices, and an improved sense of place. The focus on TOD has already produced impressive value capture through the redevelopment of greyfield sites into valuable new developments attractive to a variety of residents. Chamblee's TOD efforts display the demand for this type of development, particularly when it is encouraged by the City and located near high-quality, frequent transit service such as MARTA or the future Southwest LRT line.

Lessons Learned

HAVE A LONG-TERM VISION

The primary lessons Minnetonka can learn from Chamblee are the importance of having a clear and well-articulated vision for the type of development desired, a the collective patience to allow for piecemeal market-led development, and the perseverance to remain steadfast against development that does not advance the city's goals and objectives. Chamblee illustrates that TOD is possible in station areas such as Shady Oak. However, this development will not happen without the City working hand-in-hand with the private sector to see the TOD principles through.

BASIC FORM-BASED ELEMENTS HAVE LARGE IMPACTS

The rather elementary form-based elements of Chamblee's Mid-City Character District, including building orientation, accessibility requirements, trail networks, and overall connectivity can greatly enhance the character of even the most common suburban land uses.

DEFEND THE PEDESTRIAN REALM

The pedestrian experience in Chamblee is less than ideal. This results both from the development's form, inaccessibility from the street, and highly auto-oriented nature. Minnetonka will need to ensure that it does not stop short of enhancing

and preserving the pedestrian experience as new developments are built in its TODs. This is especially the case on secondary streets and City-owned streets where the character of the right of way and the speed of travel is under the City's control compared to County-owned roads.

PUBIC PARTICIPATION IS POWERFUL

Georgia ranks nearly last in the United States in terms of social capital. Despite this, the power of civic engagement became apparent when plans were made to anchor the Chamblee TOD with a suburban-style Wal-Mart. Intense public outcry eventually compelled the retail behemoth to significantly alter the size and configuration of the store to match the TOD objectives.

BIG-BOX RETAIL CAN ADAPT

One of the most notable trends in the world of big-box retail is the adoption of more urban store designs. Traditional suburban stalwarts like Best Buy and Target are beginning to crack the urban market by offering more flexible design layouts and specializing in items that are more conducive to an urban lifestyle. Cities are less likely to have to choose between having a full-fledged Wal-Mart or no Wal-Mart at all – middle ground is beginning to develop - and Chamblee demonstrated that even the biggest chain of all is willing to adapt.

ENGLEWOOD
COLORADO

Location:	Englewood, CO is a landlocked, first-ring suburb of Denver, CO and located directly south of Denver in Arapahoe County.
Size and Density:	6.56 square miles with a city-wide population density of 4,614 persons per square mile.[141]
Population:	2010 population was 30,255.[142]
Income :	2007-2011 median household income was $43,962.[143]
Mode:	LRT
TOD size:	50 acre redevelopment, including 440 apartments, 330,000 square feet of retail space, 300,000 square feet of office space, and 50,000 square feet of restaurants. The final project totals more than 800,000 square feet of new development.[144]
Transit start date:	2000
Planning began:	1994
Selected because:	Englewood was selected as a relevant case because of its dual auto- and transit-orientation, which remains today. It was an early TOD in the Denver area on the first extension of the region's light rail network, before a complete and mature system could be built. It also provides an interesting example of a city-owned and city-led redevelopment project.

Image source: Author

CONTEXT

Englewood is a small first-ring suburb of Denver, CO. The city has a historic Main Street area on a portion of S. Broadway, though this is a major arterial and is fairly auto-oriented with some pedestrian improvements. The core area consists of older retail buildings, strip malls, and older low-rise office towers. Much of the city consists of smaller, post-war single-family homes. Pre-war neighborhoods across the city line in Denver are gentrifying. The University of Denver is also close by.

Englewood is located southwest of Interstate 25 and is near the University of Denver. Major transportation corridors include Hampden Ave (U.S. Hwy 285) which bisects the city, and S. Santa Fe Drive (U.S. Hwy 85) which runs north-south through the city. South Broadway is a principle commercial corridor and home to Englewood's original downtown. The Burlington Northern Santa Fe Railway (BNSF) mainline runs parallel to S. Santa Fe Drive and this corridor is also home to the Regional Transportation District's (RTD) southwest light rail line. CityCenter Englewood is a Transit-Oriented Development (TOD) in Englewood, located west of S. Broadway, immediately adjacent to W. Hampden Ave. and the S. Santa Fe Dr./BNSF/RTD corridor.

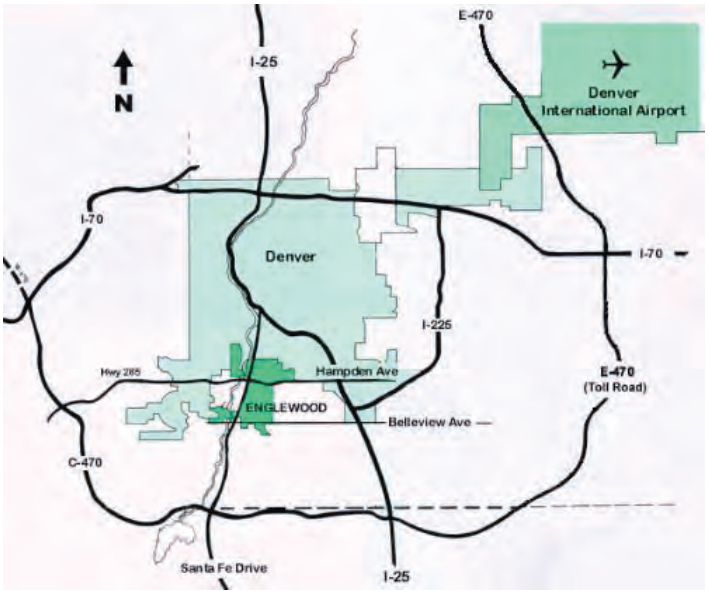

Figure 30. Englewood's location in the Denver metro area. Source: http://www.englewoodgov.org/Index.aspx?page=923.

Following the construction of the southwest line, the Regional Transportation District (RTD) has gone on to build the southeast and I-225 LRT lines. RTD is currently building an additional 122 miles of commuter rail and light rail, as well as 18 miles of Bus Rapid Transit (BRT) service, as a part of its multi-billion dollar, voter-approved build out of the regional transit system, known as FasTracks. The West Line – the first of the FasTracks lines – opened in April 2013.

FORMER LAND USES

CityCenter Englewood is built on the former site of the Cinderella City Mall, which opened in 1968 and at the time was the largest enclosed mall west of the Mississippi River. At 1.3 million square feet, it became a regional attraction and drew shoppers from New Mexico and Wyoming. The City negotiated a unique land ownership agreement with the developer, retaining ownership of the land under the parking structures that served the site, while selling the land for the mall's footprint. The City's sales tax revenue skyrocketed as a result of the mall's success and the City was eventually able to reduce property tax rates.

Cinderella City's decline began in the mid-1980s. Growing regional competition from other, larger malls decreased the importance of Cinderella City on a regional scale. One face-lift was done to a portion of the building in the 1980s, but otherwise the mall aged. By 1992, the occupancy rate was at 42% and sales taxes revenues had been cut in half.[145] Smaller merchandisers began to leave the mall, which opened the door for anchor tenants to also leave. By the late 1990s the mall was essentially closed with Foley's department store as the only remaining tenant.

EARLY WORK

In 1994, the City began a series of public meetings to get public feedback on possible site designs, including retail, entertainment, and city center concepts. That same year, the primary owners of the mall, Equitable Life Insurance, announced that they wanted to transfer ownership of the mall to the City by the end of the year.[146] Requests For Proposals (RFPs) were sent out that same year, asking for development options. All the responses were somewhat similar and agreed that the location of the site would not attract new chains to the Denver market. The consensus was that the site was more appropriate for other chains already in the Denver market that wanted to expand. This was different than the city's desire to attract a major tenant like Nordstrom.

At about the same time, RTD selected the southwest light rail extension as the next leg of its emerging light rail network and began planning the route. The City wanted to leverage this investment.

The City selected Miller Kitchell Development as the master developer in January 1995 after a national search limited the field to four candidates. The final developer was the only one whose design placed the light rail station within the actual development itself. Even then, it was sited behind a proposed movie theater. The other designs were primarily retail power centers.

In the early 1990s, TOD was a new and emerging concept with no examples in Colorado. The City was approached by the Center for Regional and Neighborhood Action and Compass RPI, an alliance that was promoting the transit-oriented development concept. This partnership led another public participation process that refined what TOD might mean for Englewood. The City endorsed the concept and, because it controlled the land, could argue for less of a big box model and more of TOD approach. As a result, the City began to push for more residential on site. Peter Calthorpe was also involved temporarily early in the design process.

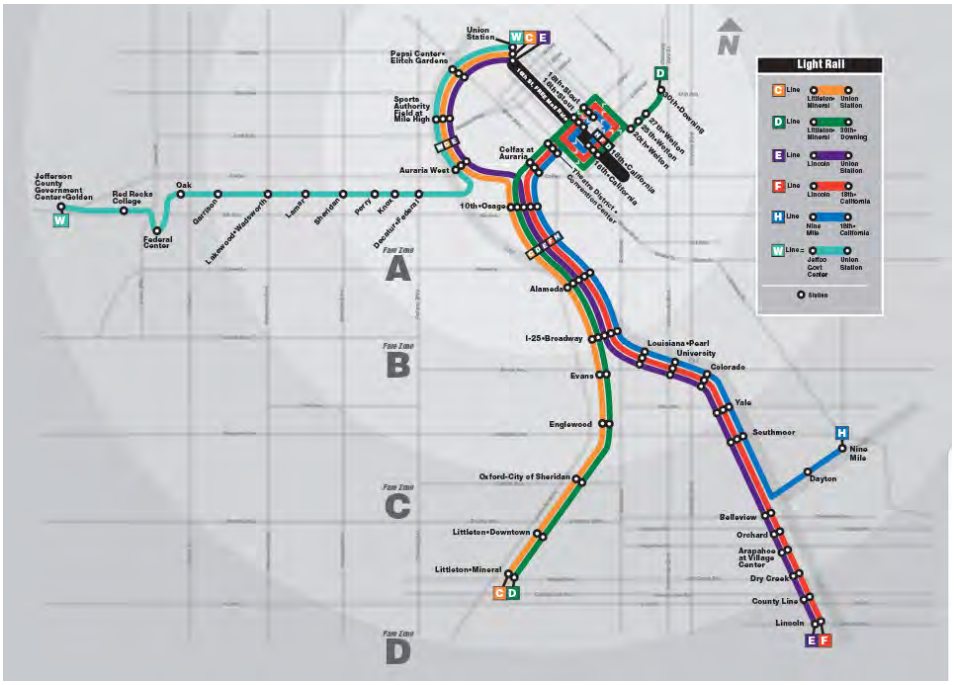

Figure 31. Denver's current light rail system map. Englewood is located on the C/D line corridor. Source: http://www.rtd-denver.com/lightrail.shtml.

Miller Kitchell included a local developer in partnership with a larger scale builder, however it soon became clear that the team did not have the expertise to develop the entire site and the selected developer was tasked with only building the retail portions of the site. The City created the Englewood Environmental Foundation (EEF) to spearhead the redevelopment efforts in lieu of Miller Kitchell. EEF assembled the property and then resold or leased portions of the site. It reported to the City Council weekly during the redevelopment process and provided a more streamlined

decision-making body for daily work. EEF continues to exist and is comprised of the City's Finance Director, Public Works Director, and Community Development Director.

ZONING FRAMEWORK

The City used a loose Planned Unit Development (PUD) district for CityCenter. Previously the site was zoned for commercial, but the City wanted a flexible zoning model that could adjust with current trends. Harold Stitt, a Senior Planner with the City of Englewood, mentioned that the overall process of planning and developing City Center was so long that the market changed. For example, the business model of movie theaters changed and the theater was no longer workable on the site. The PUD model allowed Englewood to adapt to these changes. The final built form includes many of the original elements, though a significant number of elements moved around the site in the process.

COMPLICATIONS AND INNOVATIONS

Citizens felt that Englewood was in need of a general merchandiser. Englewood initially pursued Target, but when that chain was not interested, the City turned its attention to Wal-Mart. Wal-Mart was a particularly difficult negotiation partner because it wanted control over other aspects of the site. For example, Wal-Mart required a clause in the contract that allows them to have some control over future development next to their property if it was developed as restaurants. However, as a positive element of working with Wal-Mart, the City secured a "go dark" provision that states that Wal-Mart will try to find a replacement tenant if they left early and if that were not possible, the City would have the first right to purchase the property back. One of the benefits of this approach is that the City could easily "scrape" the site and replace the structure. There are no formal redevelopment plans for the site, but the City is encouraged to know that it is an option. However, the City has no identified funds for this theoretical acquisition.

Additionally, the City wanted to extend Englewood Pkwy. from the station area on the west side of the site to Girard Ave on the east. This would require creating a

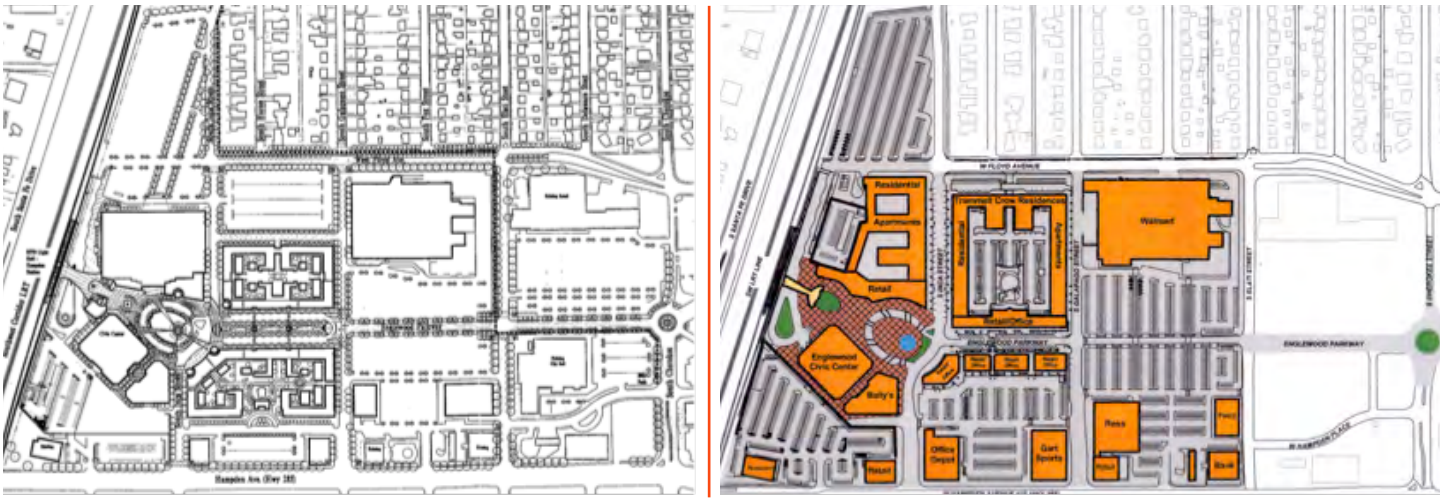

Figure 32. CityCenter Englewood as shown in the PUD plan (left) and as actually developed (right). The former Foley's building is on the far left of the site, adjacent to the station area and to the south and west of the plaza. Both images from Harold Stitt, via email, 2/13/13. PUD image from p. 55 of the original PUD plan.

thoroughfare through Wal-Mart's parking lot. The final solution was an easement that extended the road but kept Wal-Mart's property intact.

Figure 33. The City's easement through the Wal-Mart parking lot. Source: Author.

A "HYBRID TOD"

CityCenter remains an auto-oriented development, in part because of its location on a major arterial/state highway. Stitt used the term "hybrid TOD" to describe this mixture of pedestrian uses, transit, and housing in close proximity to conventional auto-oriented retail. This site was not appropriate for full-scale office development, which would have been difficult given Denver's saturated office market. It also was not prime for only residential development, but instead, based on community input and the need for general merchandising, became a hybrid model. Stitt said that the City is trying to work within the limits of the market.

The City wanted more residential units than it ultimately saw built. Part of this was due to Wal-Mart's parking demands. They required a minimum of 1.5 parking per residential unit, driven by a concern that residents would fill Wal-Mart's lot. The City had hoped to only require one parking stall per unit, but ultimately settled on 1.5 stalls per unit. Trammel Crow ultimately built a surface lot in the center of one residential complex and a parking structure for the second site.

CityCenter is located at a transition point in RTD's rate schedule, making it a less expensive point to board the light rail network if headed inbound to downtown Denver. This fact, combined with programs offered by universities in the area that give their students discounted transit passes, means that many people – particularly students – drive to CityCenter and then commute via transit. The RTD surface lot is full of commuters daily and the City has worked to keep commuters from parking in downtown CityCenter or in adjoining neighborhoods. Commuter parking is permitted in the City's parking structure.

These elements lend a quasi-transit-oriented feel to CityCenter Englewood. Portions of the site are extremely walkable and pedestrian friendly, while others feel like a suburban shopping area. Based off the TOD node-place continuum presented in *The New Transit Town*, it is partially a place and partially a node.[147]

Figure 34. Mixed use buildings on the plaza in the heart of CityCenter. One block away are more traditional auto-oriented uses, making the walkable core relatively small. Source: Author.

CONTINUED REDEVELOPMENT

Englewood is land-locked in the Denver metro area and cannot expand any farther. Stitt indicated that the City simply cannot compete with outlying suburbs for future large-scale retail. In essence, the current retail layout is not sustainable for the long term and that the City will need more residential development. In his words, Englewood is "over retailed" in terms of zoning. The City already has a fair supply of vacant or under-utilized retail in other portions of the City. The next challenge will be continuing to redevelop the CityCenter site by adjusting the plan and business model to flex with current trends. It may also require a substantial investment of public funds as well.

Eight years into its TOD experiment, the City invited the Urban Land Institute (ULI) to study the site and make recommendations. ULI found that the area did not have enough residential density or a critical mass to support services that the residents need. In essence, the shopping supported other suburbanites. ULI recommended increasing the sidewalk space and attracting more restaurants.

Figure 35. The light rail platforms are adjacent to the BNSF mainline, but the bridge over a series of bus lanes creates a distinctive feature in the plaza area. Source: Author.

Since the beginning, the City has wanted more restaurants, but parking has been one challenge to this because potential restaurant tenants wanted a minimum of 15 parking stalls per 1,000 feet of floor area. Even though the City has a shared parking plan, this was hard to sell to restaurants. Originally the RTD park and ride lot in the far northwest corner of the site was intended to be shared with the movie theater, but when the theater backed out no other tenant shared that parking lot.

The City also anticipated that some single-family homes in adjacent neighborhoods would be purchased by developers and replaced with townhomes, though this has not happened.

The City is now beginning the planning process to more fully develop CityCenter, its second light rail station at W. Oxford Ave (to the south), and a potential third station at W. Bates Ave (to the north) with planning funds provided by the Denver Regional Council of Governments (DRCOG). Stitt indicated that the current proposals are aggressive and are intended to make CityCenter more like the common conception of a TOD. These are longer-term plans as opposed to more short-term additions to the site and Stitt indicated that the consultant's original accelerated development schedule has been scaled back to better align with the City's ability to fund public improvements. Additional public participation is being conducted as a part of this process.

New recommendations include creating a pedestrian tunnel under the light rail line, BNSF Railway mainline, and S. Santa Fe Drive to link W. Floyd Ave to potential office redevelopment sites. This is estimated as a $20 million project. A hotel is proposed in the transit station area, adjacent to the Civic Center. Until now, there has been no market for this land use, but with RTD completing a commuter rail line to Denver International Airport (DIA) in 2016, there will now be a direct connection from Englewood to DIA and the hotel may be viable. Residential units are being proposed to be developed on top of parking structures, since those are the areas over which the City has the most control. This is discussed more in the Lessons Learned section below.

Parking remains a big issue. As Stitt said, ideally parking in a TOD is a temporary use that slowly gives way to pedestrian uses as the transit network matures. However, in the case of Englewood, he felt that this is not likely to happen. There are over 400 busses a day passing through the CityCenter transit station and the park-and-ride lots are full, but the biggest issue has been the slow development of residential density. W. Hampden Avenue is a state highway and borders the site to the south. Converting properties in this area to pedestrian-oriented uses, as opposed to auto-oriented uses, is not likely in the long run. That being said, parking lots that currently serve strip retail uses provide the best option for residential redevelopment in the future.

CONCLUSIONS

The final organizational and physical design of CityCenter was driven by a number of factors. First, because of the city's financial situation and because of the general poor condition of Cinderella City there was a dramatic need for dramatic action. The City was the only entity positioned to lead such a large and complicated redevelopment process. It was also a key stakeholder as a partial landowner of the site. Redeveloping Cinderella City was important for quality of life reasons, tax revenue reasons, and for

general regional competitiveness. In a climate where residents "vote with their feet," the City needed to remain a desirable place to live, but this was also tied up in the need for stable revenue. The Tiebout Hypothesis[148] captures part of this concept, but in reality all three issues are likely tied together. As is discussed in Appendix A, Colorado tax laws like the Taxpayer Bill of Rights (TABOR) and the Gallagher Amendment can make revenue generation difficult for municipalities and often lead to an increased dependence on sales tax. This contributes to what is often called the "fiscalization of land use."

Second, over the course of the entire project, the City remained committed to public input and engagement. This does not simply mean feedback on the City's plans, but actual ongoing dialogue at key points in the process. Because citizens expressed a need for a general merchandiser, the City sought out Wal-Mart. While that chain is not often seen as a likely candidate for a TOD, it does meet the community's needs.

Figure 36. Englewood Blvd. with the Civic Center in the background as viewed from the Wal-Mart parking lot. Source: Author.

With this in mind, perhaps a better way to think of CityCenter is as a redevelopment project that includes transit. This helps explain why transit was relegated to the edge of the community in some early designs and why the site is semi-pedestrian-oriented. Additionally, TOD was a new concept when this project was begun, especially in Colorado, making CityCenter a rather bold design in its day.

Figure 37. Trammel Crow's apartments as viewed from the Wal-Mart parking lot. Source: Author.

Third, though it was owned and led by the City, the CityCenter project remained attentive to market demands. The flexibility of PUD zoning allowed the City to replace the movie theater with another use as markets changed. As RTD continues the build-out of its aggressive FasTracks system, particularly the connection to DIA, new land uses will likely become viable at CityCenter. The hotel is an example of this. CityCenter Englewood will always remain a node in RTD's network, but is also continuing to evolve into a place.

Finally, the City has shown a long-term commitment to the excellence of the site. From the City's perspective, CityCenter is somewhat synonymous with Englewood's identity and thus should remain attractive, competitive, and iconic. For this reason the City worked with RTD to develop a station area that sets Englewood apart from other communities on the southwest LRT line. This is also the motivation behind the City's ongoing commitment to redevelopment and to the citizens' visions for the site.

The final site design (Figure 32) looks very similar to the PUD plans that were approved by the City, and it remains true to the community's vision. The one shortfall of that plan is the inflexibility of big boxes that now prevents more residential development from taking place. Vision therefore needs to include not simply the physical form of the finished TOD but the flexibility of the buildings and leases so that they can adapt to changing markets.

The bulk of this case was drawn from two phone interviews with Harold Stitt, a Senior Planner with the City of Englewood, CO, who has been involved in the redevelopment of CityCenter from the beginning of the project.

Lessons Learned

PLAN FOR SITE EVOLUTION

It is vital to structure the land deal and plans so that the site is evolvable. Because Englewood does not have direct control over the retail portions of the site its hands are generally tied when it comes to increasing residential density though the conversion of land uses. However, the City feels that Wal-Mart's parking on either side of Englewood Pkwy provides a likely option for future mixed use redevelopment of retail, office, and residential. However, there are no official plans for Wal-Mart to leave. As stated above, the current redevelopment plans show new residential built atop parking garages, in part because these are areas that are under the City's control.

Minnetonka will have to design the Shady Oak site so that as more residential is demanded there is a convenient, reasonable, and affordable place to site new developments. Whatever this means for the structure of leases, ownership, and parking requirements will have to be determined by Minnetonka, but the issue needs to be considered from day one, even if the City does not acquire any properties.

Englewood paid considerable attention to real estate markets and the City's ability to deliver competitive products. While Minnetonka will likely not act as a master developer, it should continue to design the site for market flexibility, permitting or conditionally permitting a broad array of land use options. In addition, as residential density gradually increases at Shady Oak, considerations should be made for the shopping, dining, and commercial needs of the area's residents.

HAVE A SHARED PARKING BACKUP PLAN

Englewood initially hoped to have shared parking between the RTD lot and the movie theater, but when the theater was removed from the project there were no remaining land uses that could share parking. In part this was due to the available parking spaces required by restaurant uses. If Minnetonka pursues a shared parking strategy, the City needs to have alternate compatible land uses that can maximize the existing parking supply.

BALANCE NODE AND PLACE BASED ON A COMMUNITY VISION

A community vision allows Englewood to keep pursing a clear direction for CityCenter, despite many changes in the economy and in the maturation of the site. It also allowed them to fight for their positions in negotiations with developers and retailers – in Stitt's words, "go to the mat" for them. Vision has allowed Englewood to be selective in the project it permits based on the community's desires and the realities of the market.

The TSAAP process led by Hennepin County is providing much needed interim station area plans, however Minnetonka needs to be intentional about asking its residents what they want to see in the future as opposed to just asking the community to respond to predetermined design options. Minnetonka appears to be already doing this to a degree, as it has discouraged some convenience stores from moving into Shady Oak, but a clear, agreed-upon, Council-adopted plan is

vital for the success of TOD projects. That vision must also balance the node and place roles of a TOD, even if one is more dominant at the beginning of service. The likelihood that Minnetonka's TODs will evolve from a node to a balance of node and place is dependent on how clear the City's vision is for those sites.

PURSUE PARTNERSHIPS IN DESIGN

Additionally, it is critically important to work with the transit agency and other funding partners to ensure that the station area design creates a unique identity, sense of place, and a suitable gateway into Minnetonka. Both Shady Oak and Opus will serve as different gateways to the city for people arriving by LRT in Minnetonka; like Englewood's bridge and obelisk (Figure 35), the designs for these areas should be bold and capture the spirit of Minnetonka, even if they remain smaller element of the final TODs.

Englewood benefited from the outside vision, support, and expertise of the Center for Regional and Neighborhood Action and Compass RPI. Minnetonka could invite the active participation of bicycle groups, commuter groups, or other interested parties in making the Shady Oak site in particular a bicycle hub or mode transfer point.

FIND DEVELOPERS WITH TOD EXPERTISE

Work with a developer that has experience with similar project. Englewood had difficulty with this project because nothing like it had ever been attempted in the region. If Minnetonka wishes to pursue a master developer for Shady Oak in particular, it should seek firms that have experience developing on complicated or contaminated sites, perhaps more so than experience with transit-oriented sites. Minnetonka should be careful that it does not accidently end up managing the entire development process if the developer is unable to complete the project.

USE A FLEXIBLE ZONING MECHANISM

Englewood relied on a PUD mechanism because it provided the most security and predictability at the time of redevelopment for the key players. Since Englewood was the final master developer, the inherent ambiguities of PUDs were not a significant problem for the City. Minnetonka should carefully consider ways to generate developer certainty in the development process by streamlining PUD negotiations or creating "by-right" development options within predefined station areas.

TOD + MTKA

Location:	Large suburb of Denver CO, located immediately to the east of Denver.
Size and Density:	154.73 square miles with a overall density of 2,100 people per square mile.[149]
Population:	The 2010 population was 325,078.[150]
Income :	2007-2011 median household income was $50,468.[151]
Mode:	LRT and Electric Multiple Unit (EMU) commuter rail
Transit start date:	2016 (projected)
Planning began:	2007
Selected because:	Aurora was selected as a case study because it is an additional Denver-area case study with newer suburban stations in an expanding LRT network, much like the Twin Cities region.

Image source: Author. Note: this image shows the equipment that will operate in Aurora, though this photo is actually in Denver at a major junction in the LRT system.

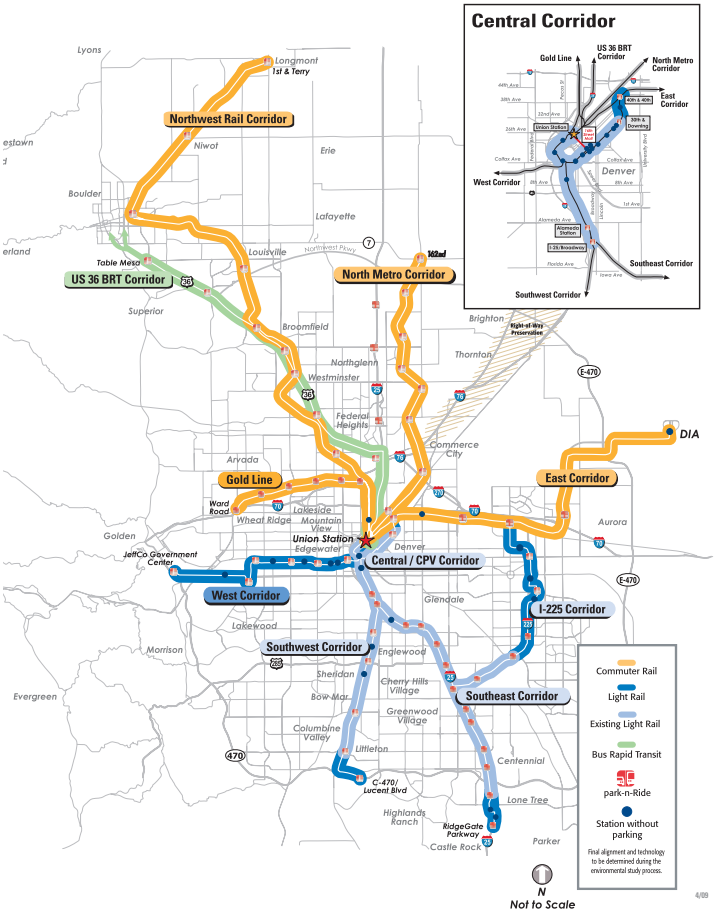

Figure 38. Denver's FasTracks projects. The I-225 corridor on the east side of the region (shown in dark blue running north-south) bisects the City of Aurora. Source: RTD. Available at http://www.rtd-fastracks.com/media/uploads/mf/25-FasTracks_System_Map.pdf.

CONTEXT

Aurora is an ethnically and racially diverse suburban city in the Denver metropolitan area. With a population of 325,078[152] it is the third largest city in Colorado and one of two majority minority communities in the state. Colfax Avenue was the traditional commercial center of Aurora, though the community has no formal "core." The future City Center station will act as the center of the community's new downtown. City Center is currently the location of municipal offices, commercial centers, and greenfield parcels.

Aurora's I-225 extension is a part of the FasTracks system that was approved by voters in 2004 and relies on a regional sales tax to fund regional transit improvements. The city will receive eight new LRT stations and two commuter rail stations, which will form a suburban loop of transit that connects to downtown Denver and Denver International Airport (DIA). Two stations, Dayton and Nine Mile, were constructed as a part of the Southeast LRT line along I-225. These stations opened in 2006 and the Dayton station area is mostly built out. Some redevelopment is expected at the Nine Mile station.

EARLY WORK

When the City began the station area planning process it relied heavily on community input and participation. The public participation process led to revisions in the comprehensive plan that restricted big box retail in TODs among other initial changes. The final TOD zone supplants these initial stop-gap changes, but like Minnetonka, loose and broad initial changes were used to prevent inappropriate development.

From 2007 to 2009, station area planning was conducted in Aurora, concurrent with the I-225 LRT Environmental Evaluation process. Initial ridership projections put the I-225 extension out of contention for federal construction funds. The line is therefore being paid entirely by state and local sources, meaning that an Environmental Impact Statement process was not required. Updated ridership projections are substantially higher.

Crandall Arambula was retained by the City as the consultant for a majority of the station areas plans at the same time, which allowed Aurora to determine the final route while also studying how the station areas should grow around the line. Station area planning was funded in part by Denver Regional Council of Governments (DRCOG) in a competitive matching grant process.

The station area plans relied heavily on community input and feedback, especially around traffic management. Concerns about parking, shortcutting through neighborhoods, and other issues led to dialogue about new processes for calming and enforcing traffic.

Throughout the Environmental Evaluation process, the plan was for the I-225 extension to open in 2017, but the Regional Transportation District's (RTD) sales tax-based funding was cut dramatically during the economic crash of 2008. The timeline was then substantially postponed. In early 2012, Kiewit Construction submitted an unsolicited bid to construct the line and received a notice to proceed from RTD in August 2012. Formal groundbreaking occurred in March 2013 and the line is expected to open in 2016, the same year as commuter rail service to DIA.

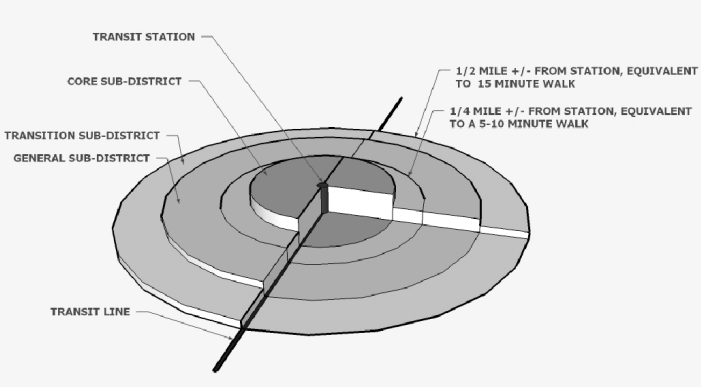

Figure 39. Conceptual sub-zones within the TOD district. Source: Figure 7.4 "Sub-District Framework" from the Transit Oriented Development (TOD) District, p. 5. Available at https://www.auroragov.org/cs/groups/public/documents/document/012622.pdf

TOD ZONING

In addition to station area plans and a blanket TOD zone, Aurora also created new urban street standards that are narrower and more characteristic of TODs, as well as new urban landscaping and parks regulations. Effective February 21, 2009, the TOD zoning district is based on a form-based code (FBC). This came three years before construction began on the two lines through Aurora and seven years before the service is scheduled to begin. The zone could be modified and adapted according to the needs of each station area plan. Each station area plan was then adopted as an ordinance and serves as an amendment to the city's Comprehensive Plan.[153] According to the plan, where then are conflicts between the City's general codes and the station area plans, the station area plans take precedence. Additionally, permitted densities in the station area plans are often lower than those permitted in the broader TOD zone, as context dictates.

The development standards list the purpose and principles of TODs as they apply to such issues as block size or density. Each principle is followed by the regulations, phrased as "desired sizes" or "desired streets." The regulations use a combination of binding and non-binding language.

The TOD zone is built on three conceptual sub-zones in each TOD: the core, general, and transition. The core is generally the center of the TOD with an approximate ¼ mi radius. Minimum residential densities in the core are 60 du/ac, with 40 du/ac and 20 du/ac in the general and transition areas respectively.[154] Height minimums are also in place, with three stories in the core, two in the general and one in the transition. General building envelope requirements are more general, using non-binding language. Other requirements in the plan hold the same standards as the city's landscaping, signage, and public space regulations.

Developments are to be phased for further densification and infill. The objective is that all developments establish "a sense of place." As the code states, "[t]he first phase shall be a viable project in itself, and establish the area as a growing center." [155]

Parking standards are reduced by one-third to one-half of the general levels in Aurora and maximum parking levels are implemented as well. Shared parking is required in TODs and is done at the scale of the area as a whole.[156] It is not required for residential uses.

Figure 40. Iliff station area land use framework. Source: Figure 4: Land Use Framework Diagram from Iliff Station Area Plan, p. 11. The plan goes on to discuss the extent of the TOD zone and identifies the specific subareas within the larger station area. Rezoning will occur as land owners redevelop their sites. Available at https://www.auroragov.org/cs/groups/public/documents/document/005578.pdf.

EXISTING LAND USES AND RESIDENTIAL MARKETS

Aurora has a number of greenfield sites along the I-225 line, many of which are single parcels held by single owners. There is a 35-acre site at the Iliff station and a 50-acre site at the City Center station. Outside of these parcels, most of Aurora's TOD sites are declining commercial areas, including flex space, which will ultimately be converted to more urban land uses.

Similar to the Twin Cities, the apartment market is strong in the Denver area. This is due in part to reductions in condo development stemming from state construction defect laws allowing Home Owners Associations (HOAs) to sue the developers that constructed their buildings. Some attorneys have developed specializations in finding building flaws and suing developers, leading to a significantly curtailed condo supply. Three-story, wood-framed, walk-up apartment buildings with surface parking are common in Aurora, but the City hopes to see more urban residential building types, including four story apartment buildings with parking structures.

PARKING

Parking for light rail transit patrons is a major issue in Aurora, with attention specifically focused on City revenue sources for structured parking construction. Colorado State Senate Bill 13-27 is moving through the legislative process and will authorize private companies to operate paid parking lots at TODs. Aurora was an early supporter of the concept.

ZONING MECHANISMS

The station area plans set development standards in the TODs and, based off recent amendments by City Council, they can also affect the land uses permitted in station areas. The station area plans are meant to be used in conjunction with the broader Transit Oriented Development Zone and permit flexibility on the site, while still moving the TODs in a more urban direction.

The City of Aurora does not own any land in the TODs and they are not currently pursuing any rezonings or assemblages. Private landowners are expected to rezone the land as they convert it to new uses. RTD does own some land in the TODs, which may developed. They also will acquire land and develop parking, though the City will be partially responsible for the construction of any structured parking.

VISION

The changes accompanying the new TODs will bring a major shift in the character of Aurora, including a move to more urban land uses. The closed Fitzsimons army base has been converted to a major medical, research, and university site. The Anschutz-Fitzsimons area currently employs approximately 15,000 workers and projections are that at buildout it will employ almost 45,000.

The City is embracing these and other major changes, but a fundamental issue for Aurora as a suburban community is finding ways to increase residential density. The City's objective is to create 30 to 40 du/ac at its TODs. This entails a move to four- and five-story, wood-framed apartments with a concrete main floor, which functionally requires a transition to structured parking. This is in part driven by maximum surface parking limits in the TODs. Parking funding sources are the sticking point in this process.

Station identity is also important to Aurora. The City has implemented uniform public art contributions, which are calculated as a percentage of the project's total building permit fee.

CITY ASSISTANCE

Aurora is creating Urban Renewal Areas (URAs) in order to use tax increment financing (TIF) in TODs. There are three existing and planned TIF districts, located at the Iliff, City Center, and Nine Mile stations. Current apartment rents are approximately $1.20 per square foot in a three-story apartment and $1.60 per square foot in a more urban apartment building. The City is using TIF to close the increment gap between the current residential market for three-story walk-up apartments and more urban, four to five-story apartments with structured parking. Because of the City's vision for a particular urban form, it is using its financial mechanisms to affect the market.

STATUS OF DEVELOPMENT

There is a substantial amount of development interest on the I-225 corridor, though no projects have broken ground yet. Some development delays are due to complications around the transfer of land to RTD for City-led parking. Aurora will begin a TOD marketing campaign in the coming months to raise attention to the development opportunities in the community.

A majority of this case is drawn from a phone interview with Loretta Daniel, a Principal Planner with the City of Aurora, CO.

Lessons Learned

CONDUCTING SITE PLANNING AND ENVIRONMENTAL WORK SIMULTANEOUSLY WORKED WELL

The joint Environmental Evaluation and station area planning process allowed Aurora to draw on national expertise for such things as "eyes on the street" and bikeway connections into the station area. Because these steps were being done concurrently, the route choice and station area design were able to strengthen and reinforce one another. While the process is slightly different in the Twin Cities, the ongoing TSAAP project may provide some of this same level of expertise.

CONSIDER A TOD ZONE OR OVERLAY

Aurora's TOD zone was based on a thorough review of other TOD zones and includes station area typology based on Denver's model, incorporating such concepts as "origin" and "destination" stations based on land use. Minnetonka appears to have a conceptual idea for Shady Oak as an origin station and Opus as a destination, but it could be more proactive in formalizing these identities and tying them to the Met Council's ongoing attempts at station area typologies. Even if Minnetonka did not want to create a form-base code for these areas, basic blanket TOD zone requirements should still be considered.

PARKING ISSUES ARE COMPLICATED AND ONGOING

The Urban Land Institute (ULI) Colorado conducted a technical assistance panel and concluded that Aurora should pursue structured parking. The problem, however, is finding mechanisms to pay for structured parking. In Aurora, this issue is not yet fully resolved. New state legislation allowing private parking garages at TODs will help, but the city is still responsible for converting surface to structured parking.

GET A HANDLE ON MARKET CONDITIONS

Aurora based its strategy on a clear, publicly supported vision for its station area. It then deployed its financial resources to close the increment between the goal and what the market will currently support. Attentiveness to both the market and the community's vision is necessary.

Minnetonka will have to examine what land uses are likely to occur; part of this analysis is already completed in the Ehlers and Associates report on Shady Oak.[157] However, the City will need to determine if public assistance is likely needed to close the gap between the site's natural development potential and the City's goals, once those goals are crystallized and made public.

FINISH FORMAL PLANS

Like Aurora's TOD zone that built upon early changes to the comprehensive plan, Minnetonka should consider creating a firmer vision for its TODs and backing it up with ordinances. The sooner this processes is completed the sooner developer certainty can be increased.

CONSIDER FUTURE TOD AND INITIAL PARK-AND-RIDE OPTIONS

While there is a wealth of conceptual materials about TODs, it appears that how those concepts are operationalized in a region evolves rather slowly. At the time Nine Mile was under construction, Englewood was still developing and TOD was still an emerging concept in the Denver metropolitan area. As a result, the Nine Mile station was constructed primarily as a Park-and-Ride but could have been developed more like a TOD. Evolution of these older sites in Aurora is beginning to occur. Currently, the land owner of a nearby shopping center has been slowly vacating the building in order to redevelop the site. However, Minnetonka should consider planning for more urban forms earlier in the planning process.

ALEXANDRIA
VIRGINIA

Location: Eisenhower Avenue Station is located in the Washington, D.C. metropolitan area, approximately 7 miles southeast of the Capitol Mall.

Size and Density: The city is 15 square miles with an overall population density of 9,314 persons per square mile.[158]

Population: The 2010 population was 139,966.[159]

Income : The 2007 - 2011 median household income was $82,899.[160]

Mode: Rapid transit subway

TOD Facts: Two large developments that together comprise approximately 300 acres with over 12 million square feet of office, retail, hospitality, and residential leasable space.

Station opening: 1983

TOD opening: 1998

Selected because: Eisenhower Avenue Station Area was selected because its development pattern prior to TOD closely mirrored that of Opus in Minnetonka. The station shows how it is possible to transform a suburban business park of mid-rise buildings and surface parking into a thriving TOD.

Image source: Zeldman, Jeffrey. "Carlyle, Old Town Alexandria, VA." Flickr.com 23 Oct. 2011. Web. http://www.flickr.com/photos/zeldman/6273076919/.

CONTEXT

Eisenhower Avenue Station is located in the southwestern corner of Alexandria, Virginia. The station serves the Yellow Line of the Metro, the National Capital Region's rapid transit service. The Yellow Line opened in 1983,[161] running from Huntington, Virginia in the south through Alexandria, Ronald Reagan National Airport, the Pentagon, Downtown Washington, and out to its northern terminus at Fort Totten Station in Northeast Washington.[162] The station itself is located approximately 7 miles south of Downtown Washington.[163] Travel times from Eisenhower Avenue Station are 9 minutes to the airport, 14 minutes to the Pentagon, and 19 minutes to Downtown Washington.[164]

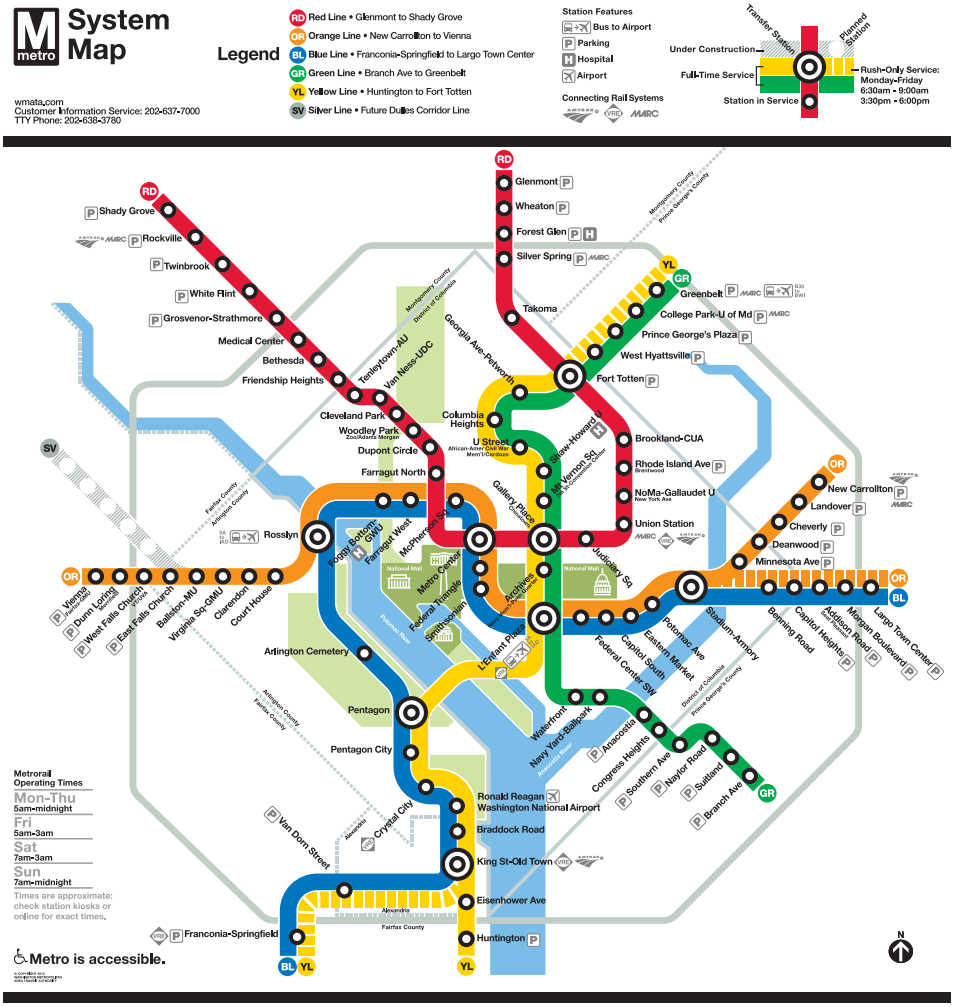

Figure 41. Washington D.C's Metro system map. Eisenhower Avenue Station is located at the southern end of the system, just south of the junction of the yellow and blue lines. Source:http://www.wmata.com/rail/docs/colormap_lettersize.pdf

Alexandria is located approximately 6 miles south of Downtown Washington. The city has a rich history that dates back to the Colonial Era and was included in the original platting of Washington, D.C.[165] Today Alexandria is composed of two parts with the historic core, or Old Town, to the east and modern suburban development across the city's west side.[166] Eisenhower Avenue Station area is located on the southern edge of the city, separated from surrounding land uses by railroads on the north, Hooff Run Creek on the east, the limited access Telegraph Road Corridor on the west, and Interstate 95 on the south.

HISTORY

Development of the area that would become Eisenhower East began in the 1958 when Hubert N. Hoffman, Sr. purchased a large tract of swamp land on Alexandria's southern border.[167] In 1983 Hoffman recounted how the purchase amounted to "every nickel I had in the world. My learned friends, other developers, assured me I would lose my family."[168] At the time of purchase, the land was occupied by nothing more than "a trailer park and a landfill."[169] Hoffman saw promise in the site due in large part to the future construction of the Washington Beltway.[170] Hoffman had plans for a major business center anchored by a 35-story high-rise. Even after the beltway opened adjacent to Hoffman's site in 1961, it would be another six years before Hoffman raised enough capital for his first project, the Holiday Inn Hotel.[171] The hotel, which still operates today, proved a success and enabled Hoffman to

further his vision. By 1983 the site was a thriving business park home to several office buildings, the Holiday Inn, and the Alexandria Sheriff's Office.[172]

After several years of construction, Eisenhower Avenue Station opened adjacent to Hoffman's business park in 1983.[173] The station was part of Washington's growing Metro rapid transit system. Planning for the Metro began in the 1950s with construction on the first line beginning in 1969.[174] The first 4.6 miles opened for service in 1976.[175] Between 1976 and 1983 the Metro grew an additional 42 miles with two new lines.[176] One of those lines was the Yellow Line serving Eisenhower Station. In 1978, recognizing the value in transit access, the Hoffman family donated the property for Metro's station kept the development rights.[177]

The transformation of Eisenhower East from suburban-style business park to the vibrant TOD it is today did not occur overnight. In 1990 the Alexandria City Council approved a development plan prepared by Cooper, Robertson, and Partners for the creation of a mixed use TOD.[178] The plan called for the redevelopment of 77 acres of abandoned rail yard just east of Eisenhower Avenue Station and Hoffman's business park.[179] The project would eliminate the barrier to neighborhoods east of the station with new street connections and the development of 6.9 million square feet of retail, commercial office, and residential space.[180] Due to the large nature of the project, the site was divided into five districts, each "a series of distinct places"[181] with phasing "carefully planned so that each of the five districts were completed one at a time."[182] The plan would link Eisenhower Station and Hoffman's business park with the King Street Station area that was located northeast of the site.[183] Much of the land for the development was held by the Norfolk Southern Railroad.[184] With the approval of the Carlyle Development Plan in 1990 and the adoption of the City's Master Plan and zoning in 1992, the developers were approved for a Special Use Permit providing "very detailed direction on land uses, intensity of development, and design for the project."[185]

Alexandria's planning staff knew that the Yellow Line would bring significant changes to their City when the line was just in its planning phases in the 1970s. In the 1974 revision to the City's Master Plan, the city recognized that:

> "[t]he potential impact of the Metrorail system, the growing problems of traffic congestion, the need for affordable housing, adequate recreational facilities and open space, the growing public concern with good urban design and the need to protect residential neighborhoods, historic areas and the natural environment. The Plan also recognized the need for Alexandria to remain economically competitive within the region and to develop employment opportunities for its residents."[186]

With ambitious proposals for TOD around Eisenhower Avenue Station and King Street Station to the north, the City revised its Master Plan in 1992 to address "issues of land use, development intensity, and zoning" in the station areas as well as establish "goals for urban design, mixed use, and transit facilities" to be adopted through a Coordinated Development District Zone or CDD.[187] The CDD zone was adopted to "allow limited levels of development using conventional zones, and to allow greater levels of

development for projects that would undergo a discretionary review process governing affordable housing and design quality."[188] The City wanted to "ensure harmonious and coordinated development" among the various large parcels near Eisenhower Avenue Station and King Street Station, both under consideration for development at the time.[189] Additionally, the city also wanted to ensure its taxpayers were not disproportionately burdened with the infrastructure costs associated with the new developments.[190] To mitigate this risk, the city required developers provide the needed street network, parking, and open space for the proposed project to comply with the Small Area Plan and then lease these improvements back to the city.[191] Given the scale of the projects, TDM plans were also required as elements of the initial development proposals to ensure travel demand was planned and provided for.[192]

Figure 42. USPTO headquarters building. Source: http://law.wustl.edu/organizations/iplaw/linksandresources.html.

In the heady days of the 1990s, developers were well financed and optimistic enough to engage in massive TODs such as Carlyle largely without public resources. The City of Alexandria worked with the developers through planning and engagement processes to ensure Carlyle would live up to the City's standards and vision for the station area. As noted, infrastructure was provided by the developer and leased back to the City with the city not having to supply funding for expenses like building the new street grid.

Following the early-2000s recession the primary development entity, the Carlyle Development Corporation, needed a new partner to help secure tenants in the weakened marketplace.[193] The developers reached out to JM Zell Partners for help with revising the master plan and implementing a new marketing approach.[194] The new development partner "worked with land planners, architects and city and neighborhood constituents to orchestrate a block-by-block reconfiguration that better reflected the scale and needs of end users."[195] The reconfiguration was a success and the project was back on track with vacant office and retail space again achieving premium prices.[196] By far the largest JM Zell contribution to the Carlyle development was helping to secure the U.S. Patent and Trademark Office (USPTO) as the primary anchor tenant.[197] The new 2.5 million-square foot complex was one of the largest build-to-suit transactions in U.S. government history.[198, 199, 200]

In the 1990s the USPTO had grown to the point that it needed more real estate than its existing facilities, scattered throughout 18 buildings in the Crystal City area of Arlington could reasonably accommodate.[201] Though the organization had occupied the location since Crystal City's initial development in the 1960s,[202] the diaspora of its

growing army of employees hampered productivity as well as its ability to "attract and retain a highly skilled workforce."[203] Additionally, a consolidation of office space would save the government approximately $98 million over the term of a 20-year lease.[204] Through the General Services Administration (GSA), USPTO began exploring the idea of a new, consolidated headquarters in 1989[205] and began searching for a location in 1996.[206] After a competitive selection process, the USPTO chose the Carlyle site as the location for its new headquarters.[207] The location was chosen as a part of the USPTO's need to "attract intellectual property experts, who will be able to work closely with local entrepreneurs to process and reduce a large backlog of patent applications" as a result of the explosion in activity in this sector since the 1990s.[208] In 2000 the GSA selected the investment, management, and development company LCOR to oversee the project.[209] LCOR was tasked with the "site development, financing, construction, and property management of the 5-building campus".[210] The USPTO began moving into their new offices in 2003 and completed the move in 2005.[211]

Figure 43. The street plan in 2006. Source: Eisenhower East Small Area Plan. Alexandria, Virginia. Apr. 2003. Web. 09 Apr. 2013.

With the USPTO leasing 2.5 million-square feet of office space in the heart of the project, the Carlyle development was ultimately completed seven years ahead of its original implementation schedule.[212] In their 2006 Eisenhower East Small Area Plan, Alexandria identified the Carlyle Development as having "set a standard for a high quality urban environment" with new opportunity "to build upon good quality urban design and building construction to continue this Class A environment into the remaining area of Eisenhower East."[213] The USPTO as an anchor tenant brings "additional demand for new office space for businesses benefiting from close proximity to their facilities."[214]

As the Carlyle development began "going vertical" in the late 1990s, the Hoffman Management Company recognized an opportunity to create new value in their business park through more intense uses and infill development.[215] With 2,000 new residents moving into the Eisenhower Avenue Station Area in 1999 alone, Hoffman developed a plan to rebrand their business park as "Hoffman Town Center."[216] The development plan called for 50,000 square feet of new shopping, three new restaurants, and a new megaplex AMC movie theater situated along "a year-round, outdoor promenade for families and people to gather, experience the arts, and stroll at night."[217]

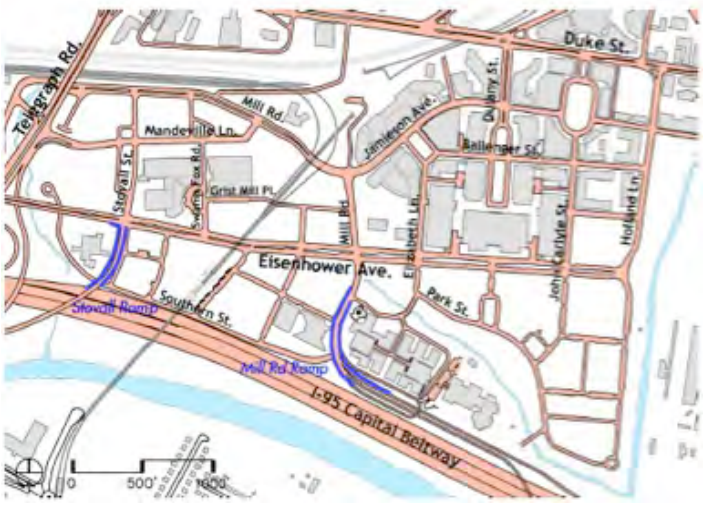

Figure 44. The future street plan called for in the EESAP. Source: Eisenhower East Small Area Plan. Alexandria, Virginia. Apr. 2003. Web. 09 Apr. 2013.

Hoffman modeled its planned development on the Reston Town Center,[218] located 20 miles from Alexandria in northern Fairfax County, approximately halfway between Tysons Corner and Washington-Dulles International Airport.[219] Like Hoffman, the Reston development project involved transforming a suburban office park into a mixed-use, pedestrian-oriented center for the

Figure 45. Eisenhower Station Area in 1988. Source: Google Earth.

Figure 46. Eisenhower Station Area in 20002, First Phase of Carlyle Development Implemented. Source: : Google Earth.

Figure 47. Eisenhower Station Area in 2001, Hoffman Town Center Phase I Implementation. Source: Google Earth.

Reston community.[220] The Reston project, begun in 1990 by the Mobil Land Corporation, has proven to be an enormous success winning "twenty-three regional and national awards for quality in design, construction, and operation, including the prestigious American Institute of Architects Award for Excellence in Urban Design."[221]

Hoffman Management Company began the transformation of Eisenhower with updates to the existing buildings in the park, including the original Holiday Inn. The project also envisioned an additional four million square feet of office space and 900,000 square feet of new residential and hotel space by 2012.[222] With the increase in densities stemming from both the Hoffman and Carlyle projects, the Virginia Department of Transportation (VDOT) approved the construction of new ramps to improve traffic flow and access from the Eisenhower East area to I-95-494 Capital Beltway.[223] Following the updates to targeted existing buildings, a new strip of storefronts was added to the front of the Hoffman Towers.[224] The storefronts replaced an existing surface parking lot, included a new plaza and wider brick sidewalks, and served as the first phase and centerpiece to the Hoffman Town Center pedestrian promenade concept.[225, 226]

Like the Carlyle, the initial plans for the Hoffman development worked with the city's Eisenhower East Small Area Plan (EESAP) but did not require any public financial incentives.[227] Rather, the City Council helped streamline the approval process for developers through "up-zoning" of underutilized parcels, coordination of design district standards to reduce the amount of public hearings, and establishing standards of development that developers can meet and thus expect a faster and less costly approval period.[228]

With new development increasing demand at Eisenhower Station, in 2008 Metro initiated a station improvement study to improve service.[229] The improvements included "new bus bays, a relocated Kiss and Ride section, and better drop-off lanes" at a cost of $3.1 million.[230] As part of a memorandum of understanding between Hoffman and Metro, "the area around the station will also get infrastructure improvements."[231] The agreement calls for Metro to "give 1.47 acres of the 3.06 acres at the station to Alexandria for construction of new streets on the south side of Eisenhower Avenue."[232] The new streets are a part of the EESAP and are intended to reduce block sizes to foster better pedestrian connections and more TOD infill.[233] The agreement also included the construction of a new urban square adjacent to the station.[234] Like the plaza built for the new retail compo-

nent of Hoffman Towers, the Eisenhower Station plaza is one of seven identified urban squares in the EESAP.[235] The EESAP defines the urban square concept as:

> "[a] centrally located space surrounded by active uses and covered by a hard paving material such as brick or stone. Trees mark the confines of the plaza and provide shade at the edge of the space. The urban square is the location of activities such as concerts, outdoor markets, and areas for exterior restaurant and café seating."[236]

The memorandum called for both Hoffman and Alexandria to provide funding for the new Eisenhower Station urban square and for Alexandria to provide funding for the new streets.[237] This marked a change from previous development agreements and strategies in the Eisenhower Avenue Station Area. Whereas infrastructure for Carlyle was paid for by the developer, it was beginning to look as though infrastructure improvements necessary for Hoffman Town Center would be funded at least partially by the city.[238] Alexandria has yet to establish a special taxing district for the Eisenhower Avenue Station Area, such as a tax increment financing (TIF) district.[239] This is not to say that such a plan may not come in the future. Alexandria established its first special taxing district for another TOD in the north part of the city in 2010.[240] The district was approved for the new Potomac Yard Metro Station and the new TOD associated with it.[241] The $270 million dollar station will be paid for by "an additional 20 cents per $100 of assessed property value, generating $500,000 per year in new tax revenues."[242] The tax only applies to new developments inside the Potomac Yard project, though the city is currently considering a possible 10 cents per $100 of assessed value in neighboring areas to the Potomac Yard project.[243]

Development in Eisenhower Avenue Station Area is roughly halfway to the fulfillment and completion of the city's vision set out in the EESAP. As indicated by the 2008 memorandum and 2010 implementation of the city's first special taxing district, future development at Eisenhower East and other city stations will require infrastructure funded at least in part by the city. The EESAP indicates that though "Water, sewer, and storm water systems are generally in place to serve Eisenhower East…," some are aging and need to be relocated to reflect the pattern of ownership and the proposed road system.[244] The growth of the station area has also led to increased demands on city services such as the Alexandria Fire Department, which has "expressed the need for an additional fire station to handle the amount of calls they are receiving in a timely and responsive manner."[245] The Hoff-

Figure 48. Eisenhower Station Area 2005, Carlyle U.S. Patent and Trademark Office Complete. Source: Google Earth.

Figure 49. Eisenhower Station Area 2007, Additional Phases of Hoffman and Carlyle Developments Implemented. Source: Google Earth.

Figure 50. Eisenhower Station Area 2012, Infill Development Continues. Source: Google Earth.

man properties continue to find suitable tenants to move forward with the Hoffman Town Center project in a phased-in manner.[246] Furthermore, the new residents of the Eisenhower corridor, with assistance from the city, have formed the Eisenhower Public-Private Partnership with a mission "To promote economic growth and quality of life in the Eisenhower Valley."[247] The Partnership works towards its mission through four activities including serving as an information source "to members and our constituency on items of concern or interest;" a proponent for the facilitation and promotion of "quality development through active involvement in the approval process;" a leader in "significant initiatives or issues that impact the development and prosperity of the Eisenhower Valley;" and as a forum for networking to "Encourage business location, expansion, and retention" through advertising and the coordinated provision "of the infrastructure needed for a healthy community."[248]

The success of the various TODs in the Eisenhower Avenue Station Area cannot be attributed to any one individual or group acting alone. Rather, each of the stakeholders and players worked in tandem toward a commonly adopted community vision of what the station area could and should be. While Hubert Hoffman, Sr. had the initial vision of the area as a vibrant economic center for the city and the region, it was the Carlyle developers that created the momentum and insertion of energy necessary to transform a suburban business park into a vibrant urban place.

In moving forward with its own station areas, Minnetonka would do well to take such an inclusive approach. Working with potential developers and stakeholders early on will create the lasting relationships and coordinated vision necessary to see the development through. Engaging residents, new and old alike, will ensure community involvement and support as the projects develop. Finally, as the partnership between JM Zell and the Carlyle Development Group illustrates, sometimes it is important for stakeholders, be they developers or city administrators, to recognize their own limitations and weaknesses and to reach out to needed knowledge bases for assistance. Had it not been for taking this step, the Carlyle development would likely have not been the success it is today and the Hoffman group may not have had the confidence to pursue a redevelopment strategy for their own properties. Relationships matter and will be critical in the success of TOD in Minnetonka.

If Hubert Hoffman, Sr. could see the Eisenhower Station Area today he would no doubt be thrilled that his vision of a growing Hoffman Empire and thriving economic center came to full fruition. A year before his death in 2002, Hoffman "persuaded Alexandria to pass a special ordinance allowing a mausoleum to be built on his land."[249] The mausoleum contains the remains of his sister, Mildred, and himself.[250] As Troy Hoffman explained, "This was his dream, to build all this… Basically, he's sitting in his grave going, 'Hah! I told you!'"[251] Hoffman had originally envisioned a 35-story skyscraper as a centerpiece to the site.[252] Though he did not live to see this dream fulfilled, in 2011 Hoffman Management "awarded Clark Construction Group LLC the contract to build the tallest tower inside the Beltway…., a residential component of Hoffman Town Center, will consist of three high-rises. The tallest one, a 33-story tower, is 396 feet tall."[253] No doubt the new tower, the fulfillment of Hoffman's most ambitious dreams, serves as a symbol and monument "for a man 'who believed in this old swamp.'"[254]

Lessons Learned

RELATIONSHIPS MATTER
Collaboration between the developers of Carlyle, private enterprises, the Federal Government, and the City ensured that the development around Eisenhower would be a great asset to the stakeholders. Each group played a critical role in its conception and development, and each brought a unique set of capabilities, talents, skills, and needs to the table. The success of the Eisenhower TODs reflect this broad base of knowledge and ability.

ESTABLISH LOCAL AND SYSTEM-WIDE CONNECTIVITY
What started out as a suburban business park and rail yard was transformed into a burgeoning series of TODs. This was facilitated through the creation of new local streets and new highway connections in addition to rail service. Transit-oriented development relies on multi-modal transportation options to function effectively, and high accessibility and connectivity ensure that robust mode share will occur.

CASE STUDIES MATTER
Hoffman modeled his site after Reston, VA, a comparable environment that transformed a suburban setting into a series of successful TODs. Since TOD is an untested concept in Minnetonka, adapting best practices and successful development models from similar environments will prove more successful than relying on the continuity of past trends.

CITY FUNDING MAY BE NECESSARY
Initially, developers funded entire projects, including infrastructure improvements. However, as time passed it became clear that development fees alone were insufficient. As a result, Alexandria had to create a taxing district to keep up with infrastructure maintenance. In a tighter lending environment, this type of assistance will likely be needed from the onset of a project to ensure that large-scale developments are completed.

TOD + MTKA

ROSSLYN-BALLSTON CORRIDOR
VIRGINIA

Location: Arlington County, Virginia is located directly across the Potomac River from central Washington DC. The Rosslyn-Ballston Corridor is located on the Orange line of the Metrorail just north of Arlington National Cemetery.

Size and Density: Arlington County is 26 square miles, with an overall density of 7,994 persons per square mile.[255]

Population: The 2010 county population was 207,627.[256]

Income : The 2007-2011 county median household income was $99,651.[257]

Mode: Rapid transit subway

TOD size: 2 square miles, 23,053 persons and 48,000 jobs spread over five station areas. 22 million square feet of office, 2.8 million square feet of retail.[258]

Planning began: 1961 – corridor redevelopment; 1972 – TOD planning[259]

Transit start date: 1979

Selected because: The Rosslyn-Ballston Transit Corridor is widely regarded as one of the first and most successful examples of Transit-Oriented Development in the US. A clear vision, strong public participation, and an effective policy framework contributed to the success of the Corridor and can be applied to developing TODs regardless of their setting.

Image source: By Ben Schumin (Own work) [CC-BY-SA-3.0 (http://creativecommons.org/licenses/by-sa/3.0)], via Wikimedia Commons. http://commons.wikimedia.org/wiki/File:WMATA_5000-Series_train_at_Rosslyn_station_lower_level.jpg.

CONTEXT

The Rosslyn-Ballston Corridor in Arlington County, Virginia is widely regarded as one of the most successful examples of Transit-Oriented Development in the United States.[260] Located directly across the Potomac River from Washington DC, the Rosslyn-Ballston Corridor (the "Corridor" henceforth) is comprised of five "urban villages" extending for three miles along the Orange Line of the Metrorail system. The Washington DC Metrorail is a heavy rail mass transit system comprised of 86 stations located along 103 miles of track. It has the second-highest ridership of any rapid transit system in the U.S.[261] Twelve percent of all regional Metrorail passenger trips originate or are destined for the Rosslyn-Ballston Corridor.[262] The five "urban villages" in the Corridor encompass about two square miles and contain more than 23,000 residents and 48,000 jobs.[263] This intensity of use creates vibrant station areas capable of supporting retail and cultural activities, but the dense concentration of uses around transit facilities keeps vehicular traffic under control. Although land uses around the stations are as dense as anywhere in the region, clear and predictable development guidelines have preserved the existing neighborhoods located beyond a quarter-mile radius from each of the five Metro stations.

Figure 51. The Rosslyn-Ballston corridor. Source: http://www.urbandesign.org/theregion.html.

The Corridor is the real-world manifestation of many Transit-Oriented Development theories – elements of walkability, mixed-use, sense of place, accessibility, and density are all present - and each element synergizes with the others to create an urban landscape that has become a model for 21st Century development. Although the Corridor boasts population and employment densities that exceed most downtowns, many lessons from the Corridor's policy framework and subsequent growth can be applied to smaller and less-urbanized settings.

There are four key policy goals that have defined the redevelopment of the Rosslyn-Ballston Corridor:

1. Preserve established single-family neighborhoods.
2. Concentrate development to a "bulls-eye" area contained within a quarter-mile radius of the transit stations.
3. Diversify the County's economic base by pursuing both residential and commercial developments.
4. Mix retail, residential, and office developments.

Arlington County has greatly benefitted from the steadfast pursuit of these goals. Although the Corridor comprises a very small portion of the County's land area, it supplies almost a third of the County's taxes, keeping property tax rates among the lowest in Northern Virginia.[264] A September 2012 Washington Post article states that the Corridor is well positioned to continue to outperform the rest of the area in terms

of real estate development and retail because of its location, accessibility, and its lively 18-hour mixed-use environment.[265]

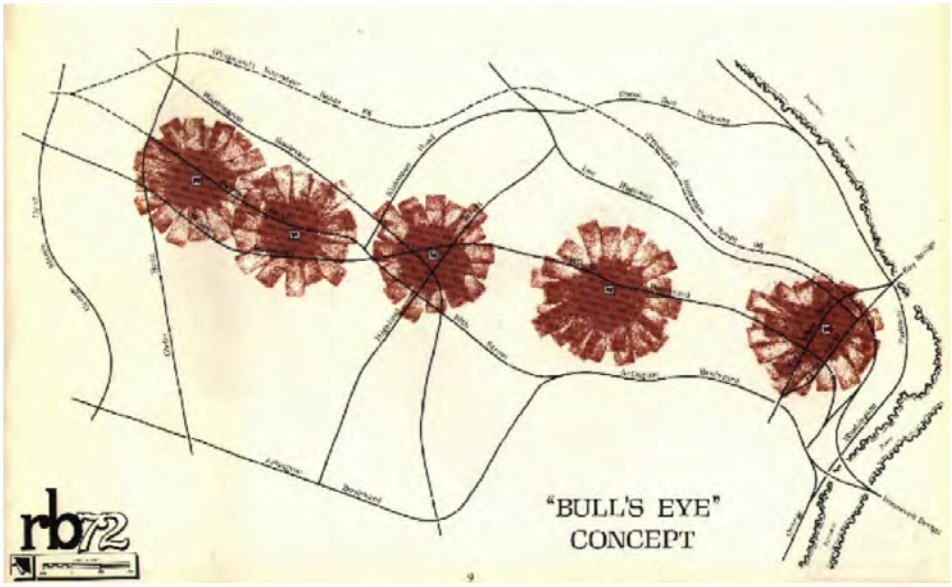

Figure 52. An early plan for the corridor, illustrating the "Bull's Eye" concept. Source: https://www.arlingtonva.us/departments/CPHD/.../pdf/file84482.pdf.

EARLY WORK

Before redevelopment began, the Rosslyn-Ballston Corridor contained a declining strip of low-density commercial buildings surrounded by single-family homes. As the Federal Government expanded throughout the 1960s, the office market in the Capital began to reach capacity. Since building height in Washington D.C. was limited to the width of the street that the building faced, new construction required very high rents in order to be economically viable. As a result, the demand for affordable and less-regulated office space began to spill over into adjacent municipalities. The alignment of the Orange Line through the Corridor combined with its proximity to the Capitol made Rosslyn a less-expensive and less-regulated location for government facilities. Consequently the area experienced a boom of high-rise office building construction.[266] Established neighborhoods surrounding Rosslyn began to decline in anticipation of unfettered commercial development, but Arlington County residents soon banded together to protect established neighborhoods before they were encompassed by runaway development.

Many Arlington County residents reluctantly recognized growth as inevitable and necessary, but realized that if it were managed effectively then established neighborhoods could be protected without sacrificing the benefits that would accompany redevelopment. The solution was to concentrate development along the new transit line through the creation of five distinct "urban villages" located at close intervals throughout the Corridor. These "bulls-eyes" of redevelopment would feature high-density uses adjacent to the station and taper down to two and three story single-family homes and garden apartments beyond a .25 to .5 mile radius.[267] Careful buffering would be used to preserve the neighborhoods that existed beyond the station area. A long-term vision for the Corridor identified five station areas that would be almost completely open for redevelopment.

Each station along the two-mile corridor would have a unique identity:[268]

- Rosslyn as a major business and employment center.
- Courthouse as a government center.
- Clarendon as an urban village.
- Virginia Square as a cultural, educational, and recreational hub.
- Ballston as a center for science and technology.

A long-term vision for the Corridor was articulated in the *RB Corridor Committee Report,* which was then codified in the *Arlington County General Land Use Plan.* More specific *Sector Plans* supplemented the *General Plan* by guiding the development of each "urban village". Although completed at different times by different groups, each *Sector Plan* contained several common themes. Each station's identity was clearly articulated, as was a plan for how that identity would be achieved. Potential issues and challenges were identified along with options for meeting the required amount of open space amidst intense development pressure. Descriptions of how single-family neighborhoods would be buffered were also included, as were urban design standards, the location of retail, and necessary public improvements.[269]

Early planning efforts succeeded in large part due to consensus reached with all the stakeholders as well as a consistent and supportive policy framework. This strong foundation created stability and predictability that engendered trust in the County government among developers and the community over the next 30 years.[270] Existing neighborhoods have been preserved beyond the quarter-mile radius surrounding the stations, while the TODs have become hubs of activity and investment. One noteworthy aspect of this compact development scheme is that vehicular traffic has only increased moderately within and surrounding the Corridor even though density has increased substantially.[271] A testament to this is the fact that no major changes to the County Master Thoroughfare Plan have been proposed since its initial drafting in 1975.

Despite the success of the Corridor, the initial plans failed to adequately address Corridor-wide elements such as affordable housing, architectural standards, retail development, transition areas between stations, parking, and a system of open space. These shortcomings became increasingly apparent over the decades as more intense development amplified initial problems.

EXAMPLE: ROSSLYN SECTOR PLAN

In 1977, at the inception of the *Rosslyn Sector Plan*, the community was booming due to expanding government office space demand. In fact, the station area was nearly 60% built out.[272] However, it offered little architectural value and had very few residences living amongst the high-density office buildings. There was no street life and an uncoordinated street and pedestrian circulation system. In anticipation of continued redevelopment, neighborhoods at the periphery of the expanding office sector were deteriorating. Because so much redevelopment had occurred before the creation of the *Sector Plan*, Rosslyn had to learn after-the-fact about the importance of aligning present development with the long-range vision.

The Rosslyn Sector Plan was not adopted until after the Metro began service, and it was geared more toward correcting the adverse consequences of past redevelopment efforts rather than establishing a vision for the station area. While a plan that was geared primarily toward a future vision may have been more inspiring than the actual one, what were needed most in Rosslyn were guidelines to prevent runaway development. The Rosslyn Sector Plan was drafted in 1977, predating the concept of TOD, but the language and concepts within the plan are strikingly similar to current plans. Examples include provision of open space, bike system accessibility, identity, streetscape, and multiple modes.[273] It also attempts to steer development around the

"bulls-eye" concept through the transfer of development rights. The plan sets forth specific goals, some of which are action-oriented and others that use softer language like "encourage" and "allow." For example, the plan calls for "the acquisition of the service station adjacent to the Wilson Community Center."[274] However, the responsible parties for the specific objectives are not included, nor are measurable steps that can evaluate progress towards each of the objectives.

MID-COURSE REVIEW

In 1989, skyscrapers were popping up throughout the Corridor as it neared 50% build-out. However, form and place had been sacrificed for density. As a response, Arlington County undertook an extensive evaluation of the successes and shortcomings of its redevelopment policies and practices. The resulting document, called the *Mid-Course Review*, sought an answer to the question "*is the corridor living up to its vision?*" It identified *issues* that had arisen during the 20 years that had passed since redevelopment began as well as existing *opportunities* in the corridor. It then prescribed *mechanisms* – action-oriented steps - that could be implemented to resolve issues and capitalize on opportunities.[275]

The prevalent finding in the *Mid-Course Review* was that clearer corridor-wide growth strategies were needed and that architectural and design standards throughout the corridor could be improved. Station areas nearly overlapped because of their close proximity, creating uncoordinated and awkward transitions between stations. Planners coined the term "Parcelitis" to explain the lack of cohesion between the *Sector Plans* and the absence of a unified image of the corridor.[276] Each station's *Sector Plan* had been written at a different time and under different circumstances. For example, Rosslyn already contained high-rise office buildings when its *Sector Plan* was written, while Ballston, at the opposite end of the corridor, had not yet begun to redevelop when its plan was written. An overall framework that addressed specific land use and urban design concerns as well as how the various parts functioned individually and fit together was needed. For example, County transportation plans identified the corridor as a single entity, but five disparate *Sector Plans* present circulation schemes that are often at odds with each other. Pedestrian and vehicular traffic did not complement each another, and the piecemeal implementation of infrastructure disturbed system-wide traffic patterns.[277]

Some of the mechanisms introduced to achieve these goals included re-prioritizing objectives in the corridor's Capital Improvement Plan, creating Development Districts through public land assemblage, adjusting and re-allocating densities to meet community targets for open space, the creation of a corridor-wide retail plan, the creation of buffer zones, and the development of urban design guidelines for streets, boulevards, and station areas in addition to buildings. For example, development on the south side of the street was required to be lower and less dense than development on the north side in order to capture more direct sunlight throughout the day.[278]

In order to tie the stations better thematically, the *Report* also established a corridor-wide set of design tools, a process of architectural review, a system-wide plan for open space that called for clearly established gateways at important entrances and well-programmed nodes within each community.[279] Design aspects also addressed the

specific treatment of the transfer of development rights so that civic and historically significant structures would not be consumed by high-rises.

EXAMPLE: RETAIL ACTION PLAN

The *Retail Action Plan* was a by-product of the *Mid-Course Review*. Its purpose was to guide decisions on appropriate locations for retail use and to incentivize desirable neighborhood service and retail by creating a desirable retail environment.[280] Replete with policies identified as Ongoing, Short-Term, Mid-Term, and Long-Term, it contains many policies designed to steer land use, zoning, marketing, and urban design. It targets specific locations (ex. "improving the pedestrian environment on Glebe Rd."), but also sets forth corridor wide objectives like reducing the number of used car lots, identifying where concentrations of retail should be located, and regulating the type of retail that can be placed on street-level. For example, it stated that no travel agencies of bank branches could be at street level on certain blocks.[281]

Figure 53. The corridor today. Source: http://sites.arlingtonva.us/rosslynsector/about/planning-in-arlington/.

TODAY

Almost a quarter Century has passed since the 1989 *Mid-Course Review* refocused planning policies and objectives along the Rosslyn-Ballston Corridor. The area has continued to develop as retail and residential uses have expanded to complement to the wealth of office space. The consistency and predictability of redevelopment policies and processes over time have been cited as one of the main reasons for the corridor's enduring success.[282] Several of the *Sector Plans* have been revised, but very few major changes outside of those outlined in the *Mid-Course Review* have been needed. The following chart summarizes the growth that has occurred since the initial plan for the corridor was created in 1972.

CORRIDOR PROFILE	1970	2011
Office Space (square feet)	5.5 million	22 million
Dwelling Units	7,000	30,000
Retail (square feet)	865,000	2.8 million
Jobs	22,000	96,000

Table 1. Growth since 1970. Source: Arlington County (Department of Community Planning). 40 Years of Smart Growth. December, 2012. http://www.arlingtonva.us/departments/CPHD/planning/powerpoint/rbpresentation/rbpresentation_060107.pdf.

One of the key policies that has steered redevelopment is the use of Site Plan Review for new developments that propose to increase densities beyond the level specified in the *Arlington County General Land Use Plan*. The *General Land Use Plan* zones the entire corridor as low density, but indicates a willingness to permit more intensive uses near the stations as long as they satisfy objectives set forth in the respective *Sector Plans*.[283] Developments at or below three stories are allowed "by right", but as the photo illustrates, many buildings significantly exceed this limit.

In order for the County to encourage development but ensure that new buildings contribute to the "urban village" dynamic, the County requires any building that exceeds three stories to undergo a Site Plan Review hearing. This process gives planners and County officials much more discretion over what is built than if the area permitted high-density development "by-right". Although detailed development guidelines are contained within the County's *General Land Use Plan* and *Sector Plans*, the exact description of "contributing to the urban village dynamic" is ultimately at the discretion of the County Board. Site Plan Review has primarily been used as a means of incorporating residential units and open space as well as a rationale for exacting development impact fees.[284] For instance, a developer wishing to build a high-rise office tower must undergo a Site Plan Review hearing for approval to exceed the existing three-story height restriction. In return for permission to develop, the County Board can require that a certain proportion of the new building is devoted to residential or community use. An FAR of 10 can be attained in certain locations for projects that include the desired mix of commercial and residential uses as well as provide some specified benefit to the community such as affordable housing or open space.[285] The following table displays some of the dramatic differences between "by-right" development and Site Plan development.

BY-RIGHT	SITE PLAN REVIEW
1.5 FAR	3.8 to 10 FAR
35-45 ft. height	100-300 ft. height
4 parking spaces per 1,000 sqft	2 parking spaces per 1,000 sqft

Table 2. By-right versus site plan review development standards. Source: Arlington, Virginia Department of Community Planning. Rosslyn-Ballston Corridor Streetscape Standards. May 2003.

Infrastructure improvements are dependent in large part on development impact fees, so a drop in fees can result in a drop in service levels. Transit fares and government aid fund the day-to-day operation of public services within the Corridor, but development fees are important for significant expenditures.[286] Streets in the corridor are in notoriously poor shape, and the lack of interesting urban design may be attributable to cost saving measures in response to high development impact fees.

Impact fees, high land values, and a limited supply of housing have pushed rents along the Corridor beyond the limits of low-income residents, though policies aimed at alleviating the housing burden have marginally increased affordability. Developers are allowed to increase density by as much as 25% if affordable housing is included in new projects, although this incentive has not produced many affordable units. Other measures aimed at increasing affordability along the corridor are a one-for-one replacement of affordable units and the creation of Community Benefit Units which are intended to remain affordable for 30 years.[287]

The Rosslyn-Ballston Corridor demonstrates that high density and mixed use TODs support broader transportation mode share, and that *congestion can be controlled if development is compact*. Today, the Corridor emphasizes walkability, multi-modal transportation, and complete streets, but driving is permissible too. Choices are the key – the more choices people have, the better the mode share will be. Owning a car is possible, but parking is often not adjacent to the destination, whether it is a home or business.[288] This arrangement creates a dynamic where people can drive and can own a car, but are not dependent upon it for all trips. Consideration for other forms of travel is integrated as well in order to establish comprehensive and convenient options.

The corridor is located at the center of a regional bike network, is well connected by buses, and has a very strong pedestrian presence. Since land use intensity is much higher and parking requirements are much lower in the Corridor than for the rest of Arlington County, a sophisticated Travel Demand Management (TDM) program was created by the County, and individual TDM plans are required for developments that exceed the "by-right" zoning restrictions. There is no long-term surface parking, and parking minimums are lower along the corridor than elsewhere in Arlington County.[289] The aforementioned parking situation as well as myriad TDM strategies has created an environment where motorized and non-motorized traffic complement one another. Today, 69% of Corridor residents commute via the Metro.[290]

CONCLUSION

Though the 1970's terminology differs somewhat from today's lingo, (for example, the term "TOD" was yet to be coined) themes contained in the planning policy documents for the Corridor are typical of TOD plans that have been created since then. Accessibility, walkability, and connectivity are repeatedly emphasized, and concerns over increasing congestion and the quality of the pedestrian environment are frequent. The "bulls-eye" concept of compactness and mixed use around the station has become one of the main tenets of TOD development, and constraining development to a quarter-mile radius around the station remains the industry standard.

Figure 54. Single family homes are set back from the transit corridor, which is surrounded by higher intensity land uses. Source: http://www.flickr.com/photos/mapei/2601432153/.

Evaluating the effectiveness of the initial policies after they have been on the books for 40 years reveals the longitudinal impact and strength of the Rosslyn-Ballston Corridor's policy language. When the initial plan for the Corridor used soft or non-specific language to outline an objective, the issue remained unresolved. For example, corridor-wide design standards suffered until 2003 when the *Rosslyn-Ballston Corridor Streetscape Standards* articulated cohesive and comprehensive design themes intended to cobble together disparate and drab architecture. From that point forward, design and architecture became much more important.

When specific goals and action-oriented steps were included in the initial policies then objectives were more often met. Examples of this are the "bulls-eye" concept of compact development and the integration of residential units into the "urban villages". To achieve this objective, specific densities and FAR figures were included in conjunction with specific land use combinations in order to increase the residential population in station areas. When specific figures and detailed plans existed, things materialized. A predictable development and review process, clear area boundaries, and a consistent planning and policy framework engendered trust, minimized controversy and risk, and increased the attractiveness of the Corridor.

The Rosslyn-Ballston Corridor's location directly across the Potomac from Washington D.C. combined with the Capital's challenging development environment has undoubtedly benefitted the Corridor. Arlington County could have taken a different approach and became the Capitol's ersatz appendage for back-office functions by

accommodating as much Class B space as the market would allow, but instead it embarked on a plan that resulted in five successful "urban villages". Residents took an active role to make sure that their neighborhoods would not only be preserved, but that the new transit-oriented developments would be viable parts of their community. As a result of a strong vision, adherence to the principles of walkability and mixed use, and clear and predictable development policies, the Rosslyn-Ballston Corridor continues to be synonymous with the best of transit-oriented development.

Lessons Learned

PREDICTABLE DEVELOPMENT AND REVIEW PROCESS

Clear station area boundaries and a consistent planning and policy framework engendered trust, minimized controversy and risk, and increased the attractiveness of the corridor. The consistency and predictability of those redevelopment policies over time is one of the main reasons for the corridor's enduring success.

INCENTIVIZE DESIRABLE LAND USES

Minnetonka's vision for its station areas should contain many different but complementary land uses. The City needs to make a distinction between desirable uses and profitable uses, and make sure that profitable uses don't entirely crowd out desirable uses. Rosslyn-Ballston planners built incentives into their development guidelines to make sure that office development didn't overrun the corridor. Minnetonka should quantify the amount of each type of land use that encapsulates its vision so that it can better manage developmental goals. Establishing a broad mix of uses and businesses types both contributes to the vibrancy of the area and shelters it from fluctuations in the market due to its diversity.

INITIAL AND SUSTAINED PUBLIC INVOLVEMENT IS ESSENTIAL

Generating a clear and widely supported vision protected existing neighborhoods within the Corridor without sacrificing the County's development goals. Minnesota, by many accounts, is the most civically engaged state in the country. It has led the nation in voter turnout in the last 8 elections with a turnout rate 16 percentage points higher than the national average.[291] Minnesota is also near the top in terms of social capital. Following suit, the citizens of Minnetonka are well educated, concerned, and proactive. If Minnetonka is able to harness the skills and aptitude of its citizens then development around its light rail stations can maximize its value as an asset to the community.

CHOICES ARE KEY FOR AN EFFECTIVE TRANSPORTATION NETWORK

Dense development allows residents, employees, and visitors the option of travelling by car, by foot, or by transit. If cars can be semi-accessible for residents, then they won't feel isolated, but parking won't dominate. Congestion within the Corridor has only marginally increased over the years because development has been compact. Also, TDM policies were essential when parking was going to be intentionally limited.

DESIGN MATTERS

An aesthetically pleasing, interesting, and comprehensible environment is an essential component of generating a strong pedestrian presence. The natural environment in Minnetonka is second-to-none in the region, but its commercial areas are fairly commonplace. The introduction of light rail and the wave of investment that will follow give Minnetonka a chance to distinguish itself form the surrounding suburbs.

BLOOMINGTON
MINNESOTA

Location:	The South Loop area of Bloomington, MN, south of MSP airport/ I-494, and east of the Mall of America.
City Population:	The 2010 population was 82,893.[292]
City Income :	The 2007-2011 median household income was $60,150.[293]
Size and Density:	34.82 square miles with an overall density of 2,390 people per square mile.[294]
TOD Size:	50 Acres
Mode:	LRT
Transit State Date:	2004
Selected Because:	Bloomington Central Station was selected because it is a local example of a mixed-use TOD project in the I-494 corridor. In-class comments from the developer also provided an interesting private-sector perspective on TODs that may be helpful to Minnetonka.

Image source: McGough Companies. http://www.bloomingtoncentralstation.com/global/stills/REF_Ext_Night.jpg.

Figure 55. The hotel slated to break ground soon. Source: McGough Companies. http://www.bloomingtoncentralstation.com/global/stills/BCS_Hotel.jpg.

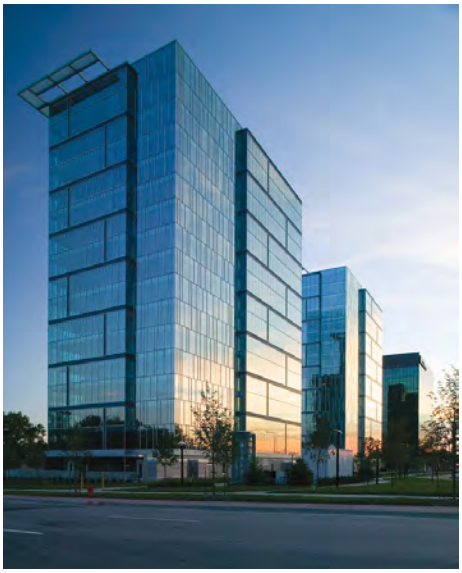

Figure 56. Reflections, the first two residential towers at Bloomington Central Station. Source: McGough Companies. http://www.bloomingtoncentralstation.com/global/stills/REF_Ext_Night.jpg.

OVERVIEW

Bloomington Central Station is being built by McGough Companies, a private development firm. McGough also assembled and prepared the site for development. The multi-phase master plan for Bloomington Central Station was approved by the City in 2005. Two residential condominium towers (Reflections) were constructed in 2005-06. The HealthPartners building was renovated and leased to HealthPartners in 2001, before the LRT line opened. A hotel project should break ground in the summer of 2013 and multi-family residential is also slated for development soon. Other office buildings will likely follow.

The City of Bloomington was not involved in assembling the site. However, partnerships with the City of Bloomington have enabled the project to proceed. TIF and various grants are assisting with the cost of infrastructure (e.g. structured parking to replace surface parking, roads, park improvements). The City and McGough have regularly gone to the Minnesota Legislature to ask for revisions to pertinent TIF laws to allow the project to proceed. State bonding will be used for road construction at Bloomington Central Station in 2014. Nearby, the City has purchased properties and will create a new road to the site, increasing connectivity with the Mall of America via Lindau Link. The City hopes to sell the remaining portion of its site to a master developer.[295]

According to Julie Farnham, the City's Senior Planner, the entire site received approval of its Preliminary Development Plan (PDP) in 2005-06, which laid out eight phases of development for the site. Each phase requires City Council approval of a Final Development Plan (FDP). A larger South Loop District Plan (SLDP) was adopted by the City in 2012 that sets the vision and plan for the area south of I-494, west of Highway 77, and northwest of the Minnesota River.

Bloomington has a clear, long-term vision for the South Loop area and uses its financial tools to help bring that plan to reality. To accommodate transit-oriented, mixed-use development, the City adopted a new zoning district for this area incorporating ideas from the Bloomington Central Station plan in the development standards. Part of this is driven by Bloomington's keen awareness of real estate markets, which allows them to know what are reasonable demands and returns on various kinds of development projects. This attentiveness to the constrains to McGough allows them to be more creative and collaborative when it comes to problem solving.

Mark Fabel, a Project Manager with McGough, stated that there is a clear collaborative, non-antagonistic relationship between Bloomington and McGough.[296] The developer thought of the TOD as "everyone's" project, not simply their own. Thus, the City was included in early design conversations and charrettes. Overall, Fabel suggested that there is less negotiation in the project and more collaborative problem solving around key issues. As evidence of this, the zoning for the site was actually developed after initial planning was done by McGough.

COMPLICATIONS

Since the financial crash, the TIF district has actually turned upside down, requiring McGough to pay out-of-pocket for annual infrastructure payments. State-approved restructuring of the TIF districts is thus a major priority of McGough.

Figure 57. The site plan for Bloomington Central Station. Source: McGough Companies. http://www.bloomingtoncentralstation.com/global/stills/BCS_Site_Plan_2007.pdf.

PARKING AND TRAFFIC

It is critical to accurately adjust parking minimums, shared parking options, and leases based on parking supply. Fabel indicated that HealthPartners has the rights to more parking than they currently or historically use. This leads to a scenario where the conversion of surface lots into structured (ramp) parking must be closely coordinated with the parking supply HealthPartners has requested, which is substantially higher than actual demand. This higher volume of parking is incorporated in current leases with HealthPartners. In the future, $40 million in TIF funds will be used to build parking ramps, allowing future office development and the removal of surface parking lots. However, this will involve iterative revisions to the lease with HealthPartners, which increases project complexity.

The approved Preliminary Development Plan (PDP) for Bloomington Central Station includes streets that are narrower than standard city streets. This is reiterated by the South Loop District Plan that calls for more "fine grained" street networks.[297] The approval of narrower streets in the PDP was contingent on an agreement called a "Master Association," designed to facilitate cost sharing for on-site improvements, maintenance, and repairs. Under this agreement, the City will build some streets if McGough agrees to maintain them. This is somewhat different from scenarios in other cities where the developer will build the infrastructure and the community is responsible for maintenance. Bloomington also has a Complete Streets policy and allows on-street parking in parts of the city.

According to Fabel, the streets in the TOD are intended to slow traffic in pedestrian and LRT areas by adjusting street design and pavement materials. The plan directs vehicle traffic to the edges of the site where parking ramps will be integrated with new construction. On the City's side, not only will Lindau Link create a pedestrian link from the Bloomington Central Station area to the Mall of America, but the City's new South Loop Streetscape Master Plan[298] will help make the entire South Loop area walkable. According to Farnham, the plan is designed to repeat the pedestrian orientation and general grid structure of the Bloomington Central Station master plan.[299]

IDENTITY

The TOD needed to have a unique identity, both for the sake of aesthetics on-site as well as for purposes of locational branding, marketing, and corporate identity. According to Fabel, it matters to potential office tenants that the area is unique, recognizable, and attractive. For this reason, McGough partnered with Hennepin County and the Metropolitan Council to build the $4 million Central Park which was designed to allow for "permeability;" that is, easy access to and through the park from a variety of directions.

Fabel indicated that rents currently do not seem to be higher in the station area, but LRT service does differentiate the site. The transit service and TOD design have fostered interest in the future construction of multi-family housing, though. There may be higher rents for TODs in the future, but in the meantime differentiation is a more significant factor than increased rents.

The bulk of this case was drawn from an in-class presentation and discussion with Mark Fabel, a Project Manager with McGough, on April 3,2013. In-class presentation and follow up email material from Julie Farnham, the Senior Planner at the City of Bloomington, also informed this case study.

Figure 58. The light rail station interfaces easily with the focal point of Central Park. Source: Author photo.

Lessons Learned

TIF IS IMPORTANT

Fabel felt that TIF was vital to McGough's success at Bloomington Central Station. He also felt that it directs private investment to locations where there is pre-existing public infrastructure. Farnham indicated something similar, stating that can be hard to generate density at suburban sites because of the relative abundance of surface parking.[300] However, making the transition to structured parking substantially increases developments costs. Public support for structured parking is likely how the City will intercede at Bloomington Central Station. Minnetonka should outline when and where it will use TIF (or other mechanisms) and for what purposes. These guidelines should be clearly communicated to potential developers.

PARTNER WITH DEVELOPERS AND OFFER CLEAR SUPPORT

The support and facilitation by Bloomington has increased developer certainty and is helping the project succeed. Minnetonka needs to consider ways of showing longitudinal support from planning staff and City Council for projects that meet Minnetonka's objectives. This certainty is in part contingent on a clear, defensible, and policy-supported vision for the site that will need to be developed for Minnetonka's TOD areas. This clear, conditional support may also help Minnetonka attract developers with the kind of expertise that is required at Shady Oak.

SIMILARLY-SIZED PROJECTS ARE LIKELY ON THE DECLINE

Fabel shared his perception that new, large-scale projects like Bloomington Central Station will be much rarer than they were before the financial crash. The carrying costs of these multi-phased projects are so high that they dissuade developers. Because of this, Shady Oak may likely be developed in a smaller, more incremental way by a larger number of landowners.

DON'T ZONE YOURSELF INTO EXTINCTION

Fabel indicated that Form-Based Codes (FBCs) are not a cure-all. When used right, Fabel stated that they can extend current similar forms into new construction. The danger is in assuming that a FBC is viable everywhere. If FBCs are used where they are not helpful, they may deter development by being overly restrictive. In Minnetonka, a TOD zone may be needed as a firmer overlay at the station areas, but this does not necessarily mean that it needs to be form-based.

Summary of Case Studies

NAME	MSA	SETTING	RAIL TYPE	CURRENT SYSTEM	ZONING FRAMEWORK
Alexandria	Washington D.C.	Urban	Heavy Rail	Metro - 5 lines, 86 stations, 103 miles of track	Planned-Unit Development
Aurora	Denver	Suburban	Light Rail and Commuter Rail	RTD - 5 lines, 36 stations, 35 miles of track	Individual parcels. Redevelopment triggers TOD zoning on a parcel-by-parcel basis
Bloomington	Twin Cities	Suburban	Light Rail	MetroTransit - 1 line, 19 stations, 12 miles of track	Planned-Unit Development
Chamblee	Atlanta	Suburban	Heavy Rail	MARTA - 4 lines, 38 stations, 48 miles of track	Planned-Unit Development
Contra Costa	San Francisco	Suburban	Heavy Rail	BART - 5 lines, 44 stations, 104 miles of track	Planned-Unit Development
Englewood	Denver	Suburban	Light Rail	RTD - 5 lines, 36 stations, 35 miles of track	Planned-Unit Development
Mockingbird	Dallas	Urban	Light Rail	DART - 4 lines,55 stations, 85 miles of track	By-right, adaptive reuse
Rosslyn-Ballston Corridor	Washington D.C.	Urban	Underground Heavy Rail	Metro - 5 lines, 86 stations, 103 miles of track	Individual parcels. Redevelopment limited to .25 mile around station. Site Plan Review used to achieve high-density
Minnetonka	**Twin Cities**	**Suburban**	**Light Rail**	**MetroTransit - 1 line, 19 stations, 12 miles of track**	**Planned-Unit Development (recommended)**

Table 3. Comparative Summary of Case Studies.

IMPLEMENTATION LEADER	YEAR RAIL BEGAN	FIRST TOD BUILT	YEARS TO DEVELOP TOD	RELEVANCE TO MINNETONKA
Equally public and private	1983	1998	15 years	Transformed a suburban office park into TOD through effective collaboration between the City, the developer, and other stakeholders.
Mostly private sector	2016 (est.)	Developing	N/A	Leading the next generation of TODs, Aurora has learned from its predecessors about effective TOD creation, and has crafted a policy framework that will guide the development of 10 transit stations.
Mostly private sector	2004	Developing	N/A	A local example of a mixed-use TOD project in the I-494 corridor. Also provides an interesting private-sector perspective on TODs that may be helpful to Minnetonka.
Mostly private sector	1986	2001	15 years	Represents the minimum standards in TOD creation. Contains all the elements of TOD, but still prioritizes auto use. As a result, it lacks a pedestrian presence and has little vitality.
Mostly public sector	1973	2010	37 years	An excellent example of TOD in a suburban context. Its evolution from a park and ride to a mixed use TOD occurred over several decades, but a sturdy policy framework ensured that each new development fit within the long-term vision for the site.
Entirely public sector	2000	2000	Concurrent	Among the first projects nationally to replace an enclosed, regional shopping mall with an open air, mixed use city core.
Entirely private sector	1997	2001	4 years	This privately owned auto and transit-oriented redevelopment project fundamentally changed the Dallas Metro Area's policies for encouraging TOD
Equally public and private	1979	1979	Concurrent	Widely regarded as one of the first and most successful examples of TOD in the US. A clear vision, strong public participation, and an effective policy framework contributed to its success and can be applied to developing TODs regardless of their setting.
Mostly private sector	**2018 (est.)**	**N/A**	**N/A**	**N/A**

TOD + MTKA

PART III:
RECOMMENDATIONS

TOD + MTKA

FINDINGS
AND RECOMMENDATIONS

Three primary recommendations emerge from the cases examined above. First, Minnetonka will need to establish a clear vision for its station areas incorporating performance standards for quantitative elements, such as parking, as well as qualitative elements, such as the character of the area. Second, this vision needs to be codified in appropriate zoning mechanism and Planned Unit Development (PUD) ordinances are a likely candidate. Third, the city will need to partner with key allies, including developers, throughout the visioning and implementation processes. In the following pages these concepts are further illustrated and outlined.

Image source: Author

1) Establish a Clear Vision for the City's Station Areas

The case studies draw from settings that are comparable to Minnetonka as well as other noteworthy TODs from around the country. Several of the case studies reference the redevelopment of brownfields or grayfields, similar to the Shady Oak site, into viable locations for residences and businesses. Englewood, CO redeveloped a flagging mall, Chamblee, GA and Mockingbird Station in Dallas. TX redeveloped former light industrial uses, Alexandria, VA redeveloped a business park, and Rosslyn-Ballston, DC transformed a declining commercial corridor. Suburban examples provide applicable policy solutions and could inspire form and design while less analagous examples convey broader principles that can facilitate TOD implementation. The following policy suggestions stop short of prescribing a specific TOD form for Minnetonka to adopt – such a decision should be the result of a collaborative effort between the City and the community - but a synthesis of the case studies will reveal guiding principles that will increase the chances that the decided form will match what is actually built.

If only one lesson could be gleaned from the transit-oriented development research presented in the case studies, it is that there is no single prescription for successful TOD implementation. Each TOD faced unique challenges based on its setting and the circumstances from which it evolved. However, the TODs that most effectively mitigated challenges were the ones that established a clear long-term vision of the site. The key is to develop this vision long before the first train passes through the station. A clear long-term vision requires 1) the purposeful transition from node to place, 2) a policy framework that remains effective through the evolution of the station area, 3) partnerships with the private and non-profit sector, and 4) a creative mix of land uses surrounding the station. Though rail transit may have been the catalyst for redevelopment, careful and intentional planning led to the viability of the respective TODs.

FACILITATE A PURPOSEFUL TRANSITION FROM NODE TO PLACE

Planners in the most successful case studies had the foresight to envision the station areas as they might appear after years of redevelopment, but the sense to realize that many interim goals would have to be achieved in the meantime. An important transformation that would have to occur is the station area's gradual transition from "node" to "place".

A TOD is a node in the sense that it is a connecting point for many types of transit. Rail passengers, buses, cars, bikers, and walkers converge at one point creating a need for intensive infrastructure and system-wide connectivity. Strong ridership validates the existence of a station as well as the relative effectiveness of the entire transit system. However, too much space devoted to transportation can detract from the sense of "place". Walkability, compact development, and human-scale urban design are equally as important as transportation infrastructure in generating hubs of activity and investment.

This transition is especially relevant because of the desire to develop the Shady Oak Station as a park-and-ride facility in anticipation of later densification. A long-range plan must depict a setting that balances both node and place, but because sites mature slowly they are often defined as a node long before they are identified as a place. Creating interesting places at the outset of transit service is difficult because

street-level activity such as retail requires a core group of residents or employees before it can be viable.

An excellent example of this transition occurred at the Pleasant Hill BART station in Contra Costa, CA. Early planning efforts in Contra Costa succeeded in large part due to consensus reached amongst all stakeholders as well as a consistent and supportive policy framework. This strong foundation engendered trust, stability, and predictability between the County government, developers, and the community over the following 30 years.

Early versions of the Contra Costa plan called for greater density around the station area and recognized the need for strong pedestrian connections. However, because the plans contained no regulatory language to achieve this objective, the station was surrounded by the largest surface parking lot in the entire BART system. Contra Costa, CA had the highest ridership among all BART stations, but it was essentially a park-and-ride for decades before a TOD replaced the massive surface lot that surrounded the station. This reveals the need to introduce TOD supportive regulatory language in the early stages of the planning process.

Plans for a mixed-use core of businesses and residences surrounding the station were first enacted in 1983, but were not actually implemented until 2010. A strong vision and supportive policies eventually steered development in the intended direction, but a substantial amount of auto-oriented growth occurred in the interim. TOD scholar Robert Dunphy teaches that TODs should be "future-oriented, but based in reality," stating, "successful transit-oriented development is the result of development occurring as it is demanded, not as a first option."[301] Transit-oriented development would not have initially made sense at Contra Costa because the area was a low-density suburb, but employment and housing density eventually increased to the level where TOD implementation was feasible. Renderings of tall buildings and intensively used spaces may have seemed out of character when the station was first built in 1973, but forward thinking and thoughtful planning eventually resulted in an environment that could support TOD.

Mockingbird Station in Dallas, TX has a large amount of surface parking adjacent to the transit station. This station brilliantly demonstrates how orientation that is focused on the transit user and pedestrian can enhance connectivity and balance node and place. Rather than orienting the project outward towards the area's heavily trafficked arterial and highway grid, Mockingbird's developer opted to direct activity towards the transit station. Eventually a pedestrian bridge was built to link the transit station with the Mockingbird TOD. The site is an effective node, and construction adjacent to the pedestrian bridge is helping to develop the "place" aspect of the project. Although the Mockingbird TOD is very accessible by foot from the transit station, it is surrounded by busy roads so connectivity to the greater station area is limited. The TOD itself has been successful, but the project's poor connectivity to the land uses beyond the station area has been one of its biggest shortfalls. The abundant supply of free parking at Mockingbird Station was oriented in such a way that it served LRT and bus services efficiently, but didn't discourage transit riders from patronizing adjacent businesses.

DEVELOP A CLEAR POLICY FRAMEWORK

In order for the transition from node to place to match the long-term vision for the station area, a policy framework that will allow the vision to materialize is essential. Perhaps the most difficult, yet most important aspect of crafting strong policy framework is balancing long-term development objectives with short and mid-range goals.

The most successful policy frameworks in the case studies contained Development Management Plans that listed measurable goals as well as the respective entities responsible for pursuing those goals. This mechanism organizes goals and objectives, and sets forth specific policies geared toward reaching them. Replete with action-oriented language, the Development Management Plan identifies measurable steps that evaluate progress toward each objective as well as the responsible party to achieve such. In Contra Costa, clear objectives were set forth in a thorough Development Management Plan. It included action- oriented steps required to meet the objectives, benchmarks used to measure progress, and the parties responsible for each of the goals. The objectives were thorough, directive, and specific. In addition, they were written to be intentionally lenient so developers would not be scared away.

In contrast, paying token consideration to TOD objectives without creating a supportive policy framework often results in the creation of station areas that fall far short of their potential. Rosslyn-Ballston demonstrates the effect of strong policy language versus weak policy language over several decades. When action-oriented and specific policies were used, sites progressed. For example, the "bulls-eye" concept of compact development and the integration of residential units into "urban villages" were well articulated in both the station plans and Arlington County's comprehensive plan. The consistency and predictability of redevelopment policies and processes over time have been cited as one of the main reasons for the corridor's enduring success. Specific densities and floor area ratios were delineated in conjunction with specific land use combinations in order to increase the residential population in station areas. A strong policy framework that preserved existing neighborhoods and restricted high density office development to within .25 miles of transit stops resulted in coordinated growth that contributed to the TOD dynamic.

When weak language and broad guidelines were used, development either languished or fell victim to market forces that were inconsistent with the initial long-term vision of the site. For example, corridor-wide design standards suffered until 2003 when Arlington County issued the Rosslyn-Ballston Corridor Streetscape Standards, which articulated cohesive and comprehensive design themes intended to cobble together disparate and drab architecture. From that point forward, design and architecture became much more important. Rosslyn-Ballston encountered a similar dilemma with the placement and type of retail that the Corridor was attracting. When design and retail issues were more specifically addressed, both pedestrian presence and retail activity increased substantially.

Chamblee, GA demonstrates that successful TOD projects can be derailed by policies that pay token considerations to the pedestrian but make paramount the needs of private motorists. The following policies provide a snapshot of those contained in

the Chamblee plan: All development in the station area must address the street and include an appropriate front building façade, while parking should be located to the side, rear or underground and be screened by landscaping from any pedestrian view. First floors of buildings should be built at pedestrian scale. First floor retail, services, and offices are highly encouraged within the district, while loading and trash collection areas must be screened. All developments must provide appropriate open space and connect into the established or planned pedestrian/bicycle system.

Although each of these elements is present to some extent, what was ultimately built still makes paramount the needs of the private motorist. Many of the streets are lined with sidewalks and retail, but the primary entrance to the stores is from an interior parking lot, and the sidewalks have poor connectivity to the greater station area.

Although it is imperfect, the shape and scale of development in Chamblee does not rule out more transit and pedestrian-oriented uses as population and employment density increase - the built form may simply be a few years ahead of the market demand for this type of environment. Rosslyn-Ballston and Contra Costa took decades to develop, and suffered many of the same growing pains as Chamblee in their early stages.

In contrast to this, Englewood's process gave rise to low-density and auto-oriented land uses that were reasonable at the time but may not be in the long-term interests of the area. TOD was also a new, not fully developed concept at the time, so what TOD meant in that context had yet to be completely understood. Today, large suburban-style retail precludes the development of something more suitable in its place. The biggest take-away from Englewood is that what is built first affects what can come later.

The framework intended to guide development of the Aurora, CO TOD was borne through lessons learned at Englewood as well as extensive pre-planning. Developments at Aurora are to establish "a sense of place." As the code states,"[t]he first phase shall be a viable project in itself, and establish the area as a growing center,"[302] and developments are to be phased for further densification and infill. Soft language such as this is matched with more explicit policy direction. For example, the TOD zone is built on three conceptual sub-zones in each TOD: the core, the general, and the transition. Specific height, bulk, and density requirements exist for each of the TODs in the station area as well as for each of the sub-zones. Parking standards are reduced by one-third to one-half of the general levels in Aurora and maximum parking levels are implemented as well. Shared parking is required in Aurora's TODs and is done at the scale of the area as a whole. It is not required for residential uses.

Minnetonka needs to consider ways of showing longitudinal support from planning staff and City Council for projects that meet the City's objectives. This certainty is in part contingent on a clear, defensible, and policy-supported vision for the site that will need to be developed for Minnetonka's TOD areas. This clear and conditional support may also help Minnetonka attract developers with the kind of expertise that will be required at Shady Oak.

UNIQUE MULTI-PURPOSE SITE DESIGN

Coordinating the interplay between node and place has given way to a variety of creative land use arrangements that simultaneously facilitate transit and encourage place-based activities.

In Contra Costa a landscaped square adjacent to the south side of the station simultaneously serves as a public park and a drop-off point for riders. On the other side of the station is a multi-story parking garage that is hidden from public view by apartments that are "wrapped" around its exterior. The apartment/parking garage is intended to accommodate cars for long periods of time while the public square is designed for short-term occupation like drop-offs, buses, and vehicular circulation. The square also serves as a "community core," similar in function to the traditional concept of a Main Street. These design concepts simultaneously address traffic, aesthetics, and pedestrian activity.

In Rosslyn-Ballston, "bulls-eyes" of redevelopment feature high-density uses adjacent to the station and taper down to two and three story single-family homes and garden apartments beyond a .25 to .5 mile radius. Careful buffering is used to preserve the neighborhoods that existed beyond the station area. One noteworthy aspect of this compact development scheme is that vehicular traffic has only increased moderately within and surrounding the Corridor even though density has increased substantially.

Site Plan Review has been the primary mechanism in Rosslyn-Ballston for incorporating residential units and open space amidst a strong office market (and as a rationale for exacting development impact fees). With Site Plan Review, the County requires any building that exceeds three stories (the "by-right" zoning height limit) to undergo a Site Plan Review hearing. High-density development is encouraged in Rosslyn-Ballston, but restricted in the underlying zoning code, so Site Plan Review is the mechanism by which high-density uses become permitted. Driven by high demand, this process gives planners and County officials much more discretion over what type of high-density development occurs. In return for permission to develop, the County Board often requires that a certain proportion of the new building is devoted to residential or community use.

Just a couple miles down the Potomac River, Alexandria, VA adopted a similar development review process in order to have more control over how land around its Eisenhower station was used. Its policies "allow limited levels of development using conventional zones, (but) allow greater levels of development for projects that ... undergo a discretionary review process governing affordable housing and design quality. " The City wanted to "ensure harmonious and coordinated development" among the various large parcels close to the surrounding stations.[303]

Strong connections ensure that development around station areas will be accessible by a wide variety of transportation modes. Alexandria, VA increased connectivity to neighborhoods surrounding the Eisenhower Station by carving a street grid out of a suburban style business park and rail yard. To ensure that taxpayers would not foot the bill for the necessary infrastructure additions, the City of Alexandria covered the cost through development fees. Such a dramatic transformation of the landscape likely

seemed impossible when the station area consisted of winding roads with few outside connections, but a visionary planning and development staff made it happen. The Opus site in Minnetonka may need to undertake a similar course of action to increase connectivity amidst growth.

Inherent in the creation of a place is the creation of an identity. According to the developers of the Bloomington Central Station, potential office tenants seek locations that are unique, recognizable, and attractive.[304] For this reason, the development group partnered with Hennepin County and the Metropolitan Council to build the $4 million Central Park which was designed to allow for "permeability;" that is, easy access to and through the park from a variety of directions. The five stations along the Rosslyn-Ballston Corridor each have their own identity ranging from employment center to government center to cultural center. Minnetonka must identify a long-term identity for each of its sites and develop comprehensive objectives to create those identities. For example, Minnetonka's most distinctive feature is its counterpoint with the natural environment. Lower-rise buildings, strong horizontal lines, prairie architecture and natural colors would fit well in both Shady Oak and Opus.

Finally, like many of the communities presented in this report, the City of Minnetonka is primarily auto-oriented. If the City wants to achieve the economic, environmental and transit benefits associated with development at its future stations, stakeholders will have to strike a balance between auto and pedestrian orientation. However, until Minnetonka finalizes the specific design characteristics of its LRT stations, parking policy recommendations will remain grounded in theory. Like many other aspects of TOD, policy supports design and vice versa. A more thorough discussion of parking policy is contained in Appendix B.

PUBLIC PARTICIPATION

In addition to initial and sustained public involvement, collaborating with both the private sector and local organizations has led to successful TOD implementation. The rationale is simple – seeking the help of experts in their respective fields will result in policies that are well thought out and comprehensive. Public/private partnerships allow each entity to perform the duties for which they are best suited, encourage private responsibility, and mobilize private resources for public goods. In addition, enlisting the help of local groups can give planners and policy makers the insight and perspective that are paramount to best practice research conducted by the City. Of course, balancing the various needs of interest groups will inevitably leave some groups more satisfied than others, but the overall policy framework will be better aligned to serve the needs of the community.

Stakeholder identification and public participation played a pivotal role in the success of Contra Costa. The catalyst for the development of the site was a six-day charrette that brought together more than 500 participants, including many elected officials, with the goal of forming a consensus about the form and function of the TOD. Extensive preparation by the planning staff ensured that the sessions remained productive and rooted in reality, and as a result a design was agreed upon that closely resembled what was ultimately built several years later.

Aurora's TOD planning has relied on community input for issue identification as well as guidance for solutions that were palatable to both advocates and adversaries of increased development. For example, concerns from the public about parking and shortcutting through neighborhoods led to dialogue about new processes for calming and enforcing traffic. Expanded rail transit is not expected to begin in Aurora for several years, but they have learned from their predecessors that community input and feedback should steer growth from the early stages. The City's efforts have also included the creation of new urban street standards that are narrower and more characteristic of TODs, as well as new standards for both urban landscaping and parks.

Minnesota, by many accounts, is the most civically engaged state in the country, leading the nation in voter turnout in the last 8 elections with a turnout rate 16 percentage points higher than the national average.[305] In Robert Putnam's landmark book "Bowling Alone" Minnesota is lauded as one of the states with the highest amount of social capital (incidentally, Minnesota also ranks first in percentage of people in bowling leagues). Putnam repeatedly extolls Minnesota's "healthy civic adults and healthy well-adjusted kids."[306] In contrast, Georgia ranks nearly last in terms of social capital. Despite this, the power of civic engagement became apparent when plans were made to anchor the Chamblee TOD with a suburban-style Wal-Mart. Intense public outcry eventually compelled the retail behemoth to significantly alter the size and configuration of the store to match the TOD objectives. The Chamblee case study reveals that even a community not in the habit of civic engagement can band together and make a demand for a viable and progressive TOD. It follows that a community like Minnetonka – one of the most informed cities in one of the most educated states – will do the same and more.

Citizens of Minnetonka are well educated, concerned, and proactive. They ought to have an important and sustained role in the development of Shady Oak and Opus. Not only will they be the primary users of the station, Minnetonka residents are also politically engaged, so an unpopular or poorly represented vision could have dire repercussions at the ballot box. If Minnetonka is able to take advantage of its educated, well-connected, and active citizens, then its light rail stations can attain maximum value as assets to the community.

2) Use an Appropriate Zoning Framework to Achieve this Vision

Successful trainsit-oriented development is contingent on innovative but consistent and predictable review processes. Unique approaches are utilized in all of the cities examined in this report but PUDs are the most common. This approach may ultimately be the best for Minnetonka, since PUDs are already a commonly utilized zoning tool in the community.

However, before any decisions on land management or zoning frameworks are made, the city will need to complete station area plans for Shady Oak and Opus. The station area planning process needs to establish performance standards, environmental baselines, and qualitative or place-making minimums. Once such plans are developed and adopted, the necessary implementation measures can be accomplished through the most appropriate city ordinances.

FIVE KEY PLANS

For Shady Oak, the station area planning process should intentionally include a collaborative effort between Hopkins and Minnetonka, so that the general vision and performance standards for the site become codified in both communities' ordinances. Some of this has already been accomplished in the TSAAP process for opening day plans, but longer term visions will need to follow.

A likely final series of land use controls and plans includes:

- Transitional Station Area Action Plans (TSAAPs) that will develop opening day station area plans. This process is ongoing and Minnetonka is participating with other communities on the Southwest LRT line.
- Longer term station area plans that will need to be developed by Minnetonka.
- Station-specific design guidelines for Shady Oak and Opus that establish and codify design and performance standards. The design guidelines may also be adopted as amendments to the comprehensive plan. This point and the previous point may be articulated in the same document. For example, St. Louis Park's *Beltline Area Framework & Design Guidelines* provide both a vision for the station area and design guidelines for development.[307]
- A revised PUD zone that permits station area-specific density and design requirements.
- A revised Southwest Light Rail Transit Overlay District (SWLRT District) that requires properties within the zone to comply with the previously established design guidelines, via a PUD zone or through compliance with the existing zoning.

The benefit of this approach is that, with the exception of the design guidelines, no entirely new ordinances need to be developed or adopted. This regulatory regime can be implemented through revisions of existing documents.

STRENGTHENING PUDs

Based on the findings from the case studies included in this report, a revised PUD ordinance with a subsection applicable to station areas is an appropriate mechanism for Minnetonka. PUDs were used in a number of cases examined in this report, especially for complicated sites. PUD requirements would give developers in Minnetonka more flexibility initially, however a PUD approach would necessitate performance minimums for the TODs. There are examples in the cases where other approaches are used, for

example Aurora is rezoning its TODs for mixed use and form-based growth, but in that case the parcels are larger and less fragmented than at Shady Oak.

Forthcoming research by Carissa Schively Slotterback at the University of Minnesota on necessary conditions for successfully Planned Unit Developments (PUDs) in the Twin Cities metropolitan area may be helpful to Minnetonka. Schively Slotterback's research contains a number of strategies that can be used to PUDs successfully, including:[308]

- **Require developer-led public meetings early in the design and application process.** These meetings should be led by the developer, however the presence of city planning staff can help streamline the process by answering questions, describing the process, and to interpret the documents presented. Since increased developer risk is a downside of the PUD approach, early public meetings can reduce public uncertainty, which subsequently reduces the potential for public backlash. The net effect is reduced developer uncertainty. Minnetonka should encourage developers to draw a clear link between their proposal and the publicly adopted station area plan during these meetings.
- **Require pre-meetings between the city and the developer before the application is even submitted**. This allows the staff to share the city's concerns and to address possible roadblocks before a submission is made. In light of the 60-day rule for the review of development applications in Minnesota, this can help minimize uncertainty for both the developer and the Planning Commission or City Council. Section 300.22, part 5a of Minnetonka's ordinances strongly recommends this approach, though it could be made mandatory for station areas.
- **Use a point system for PUD evaluation**. This is the approach taken by the City of Minneapolis, which has published standards and criteria for PUDs. Various amenities are worth a different number of points and a minimum number of points are required as a part of the PUD application. Density bonuses can be awarded for a variety of housing types and amenities. Again, for this to be successful in Minnetonka, the development of a possible point system needs to follow the development of a clear set of city and public priorities that would then used as the foundation for the point system. More on Minneapolis' approach can be found in the city's PUD ordinance Chapter 527, Article 2.[309]

Figure 59. This development in Hayward, CA has a density of 27.7 du/ac. Source: (Top) Excerpt from Visualizing Density *by Julie Campoli and Alex S. MacLean. © 2007 by the Lincoln Institute of Land Policy, Julie Campoli, and Alex S. MacLean. Aerial photographs © 2007 Alex S. MacLean. p. 71. (Bottom) Google.*

Schively Slotterback indicated that there are a number of ways communities in the Twin Cities metropolitan area structure their PUDs. Some communities use PUDs as an overlay zone over existing zoning, while other communities completely rezone an area for PUD. Since Minnetonka already has an overlay district it may consider using the first approach, though that decision will ultimately be up to the City.

POSSIBLE PUD ELEMENTS

For a future TOD-PUD option, development standards should be included in the PUD ordinance, possibly as its own section much like Sections 4 and 4a which specify standards for single-family and single-family detached cluster housing. A new possible "4b" section should include quantitative minimums and maximum in terms of parking and density, as well as qualitative minimums it expects in relation to the character of station areas. While being far from a Form-Based Code (FBC), this portion of a PUD

ordinance can use FBC elements, including images, pictures, statements of character, and building massing requirements that flow from the station area planning process.

Incentives should also be included in the ordinance, with density being one of the most prominent. The City has already discussed with the project team anticipated densities of 30 to 40 du/ac, but additional density could be offered in exchange for design or performance standards stemming from the station area planning process (e.g. environmental elements or public amenities).

Another important policy and legal objective that emerged from the case studies was the need for giving pedestrians as much if not more precedence than automobiles within the station areas. At a very minimum, the PUD requirements need to allow for the site to be developed through an evolutionary process, in accordance with the City's long-term vision. Yet Minnetonka needs to be careful to avoid making the requirements so firm as to disincentivise growth.

Therefore, the following options may be considered in the PUD requirements or overlay zone:

- Allow long-term net residential densities that are higher than initially anticipated, perhaps up to 50 du/ac, though lower densities would be permitted initially by right, up to 30 du/ac with a minimum of 20 du/ac to ensure more urban forms. Density bonuses could then be used to achieve the City's other qualitative objectives, filling in the gap between 30 du/ac and 50 du/ac.
- Build-to lines that draw buildings closer to primary roads in the TODs. This does not have to be a form-based code (FBC), but should include some critical form elements.
- Requirements for building access at street level along primary corridors. This would be used to address the problems of accessibility encountered in Chamblee, where buildings are placed on the street, but there is no pedestrian access.
- Shielded parking to increase the quality of the pedestrian environment.
- Shared parking requirements that permit shared parking with other existing developments within the same TOD. This would be used to help reduce overall parking levels in the TOD. Aurora is using a similar strategy.
- A statement explaining how the proposed lease structure and proposed land uses will allow for site evolution over the long term, even if the project is not a multi-phase development.
- Horizontal mixed used, or the integration of uses within the same area but not necessarily the same building, is perceived as less risky by lenders, so this development strategy is more "buildable" than the textbook definition of mixed-use. Development in this manner also facilitates building management and leasing. Contra Costa utilized this approach.
- Smaller block lengths. The length of blocks within the Contra Costa TOD is capped at 200 feet to ensure that separate uses will still be proximate to one another and to facilitate circulation.
- Smaller permissible lot sizes for more urban residential types, such as townhomes or live-work units, when included a TOD.

Figure 60. A TOD in Pasadena, CA with a density of 35 du/ac. Source: Excerpt from Visualizing Density *by Julie Campoli and Alex S. MacLean. © 2007 by the Lincoln Institute of Land Policy, Julie Campoli, and Alex S. MacLean. Aerial photographs © 2007 Alex S. MacLean. p. 75.*

Figure 61. Mockingbird Station in Dallas has a density of 35.7 du/ac. Source: Excerpt from Visualizing Density *by Julie Campoli and Alex S. MacLean. © 2007 by the Lincoln Institute of Land Policy, Julie Campoli, and Alex S. MacLean. Aerial photographs © 2007 Alex S. MacLean. p. 75.*

Figure 62. Building access on the street could improve the pedestrian experience of this scene in Chamblee. Source: Google.

Figure 63. Horizontal mixed-use in Contra Costa, CA. Source: Google.

Figure 64. Smaller block lengths in Contra Costa, CA help facilitate horizontal mixed-use by ensuring that uses are close to each other. Source: Google.

Figure 65. Smaller lot sizes in the PUD plan would benefit townhomes, like these in Hayward, CA. Source: Google.

A relevant example can be found in the Eisenhower East Small Area Plan process in Alexandria. The City worked with developers beginning in the early 1990s to craft a public-private vision of what would become the Carlyle development. With the implementation of the Carlyle development and the interest in expanding the TOD concept into the neighboring Hoffman properties, the City adopted the Eisenhower East Small Area Plan (EESAP) in early 2003. The planning area included the initial Carlyle development as well as large tracts of land owned by Hoffman and other entities to encompass the entire Eisenhower Avenue Station Area. The plan lays out the history of the site, the vision of what the site will become, as well as the necessary public and private investments needed to get there. In addition, the EESAP includes market analyses for all proposed land uses over the next 20 years to ensure the vision adopted is founded upon realistic projections of area demand. The Plan goes into great detail on topics such as pedestrian and automobile circulation, open space, and affordable housing, with specific policies for implementation. The Plan serves as the critical "go-to" document for the current context and policies, as well as the specific public and private policies and plans for the next two decades. The document derives its strength from the level of detail given to all important issues in crafting successful TOD as well as the specificity of the policies, public and private investments, and partnerships necessary in realizing the site's potential and the collective vision.

CHAMBLEE IS THE BASELINE

Of all the case studies and cities included in this report, Chamblee represents the "lightest touch" taken by a city. This likely derives from several realities. First and foremost, as a small, blue collar, inner-ring suburb, Chamblee lacks many of the resources enjoyed by other larger or wealthier cities in this report. Located two stops from the bustling Lennox and Lindbergh Station Areas, the city benefits from pent-up demand for TOD that is more accessible to younger and less affluent professionals. Finally, Chamblee exists within the broader traditional political culture of Georgia and the South.[310] In a traditional political culture, the appropriate role of government is viewed as being limited to maintaining the existing order, with a focus on conservative custodialism.[311] This largely reflects Chamblee's approach to redeveloping the station area in its Mid-City District. The City established a community vision for the Mid-City District through conventional planning and zoning processes. The TOD that has occurred in the district has been entirely market-driven by private developers. As noted, the target demographic is young families and professionals seeking the lifestyle amenities of TODs but that have been priced out of the highly lauded and successful Lennox and Lindbergh station areas.

While the "light touch" approach has served the city well with developers of residential units for this target demographic, it was greatly limiting in working with the developers of the new Wal-Mart Supercenter. As noted in the case, Wal-Mart cooperated with the city but only to the extent the city's policies and zoning codes required it to do so and with the help of broad public support for the city's position. Unfortunately, what ultimately resulted was a quasi shell of TOD that met the regulations but did not function as the city and public stakeholders had intended when laying out the rules and vision for the Mid-City District. This displays the challenge of a lightly regulated, private-led approach to adopting TOD, particularly when the city encounters pushback from more "conventional" suburban developers. However, it also shows the importance of standing one's ground in negotiating, even with powerful entities such as Wal-Mart.

3) Identify and Develop Key Partnerships, Including Developers

EACH TOD IS UNIQUE

Transit-Oriented Development, even after twenty years of examples and successes, is still an emerging concept. This is less due to TOD's theoretical foundations and more due the unique challenges of applying the theories to unique, complicated contexts. Regardless of location, greenfield development offers a higher level of similarity and certainty that infill and redevelopment sites lack. In addition, the structure of government intervention at a TOD, the mode of transit, the regional governance structure, and the unique goals of the community for the station area all dramatically affect what kind of development is ultimately built. The immense number of stakeholders and the interplay between goals complicates the TOD planning process. To ensure that development around station areas provides maximum value to the community identifying and utilizing partnerships between key stakeholders is essential.

LOCAL GOVERNMENT SUPPORT IS KEY

The developers of successful TODs examined in this report had consistent, clear, and knowledgeable support from local governments. This is vital because the inherent uniquenesses of each site make each TOD a one-of-a-kind experiment. Having the local government on board means more than financial assistance though TIF or other mechanisms, but a commitment to innovative problem solving, political support, and connections to knowledgeable outside groups. Minnetonka may not be the developer of these sites, as was the case in Englewood, but it should begin to see itself as the "nexus" of vested interests in the site and, when necessary, take a direct leadership role. The city has a unique role to play in hosting the discussion and making the connections necessary for success. As was the case in Bloomington, both the city and the developer will need to think of the station areas, particularly Shady Oak, as a shared project, even if the city has little financial stake in the TOD. The support and facilitation by the City of Bloomington has increased developer certainty and is helping the project succeed.

As the case studies displayed, the economic and market uncertainty of the past few years has required local governments to "grease the wheels" for TOD by providing assistance in a variety of ways. The use of public financial assistance can greatly assist in ensuring that the community sees public objectives realized. However, it is also important to clearly articulate when, where, and how public resources, for instance TIF, will be available. This will reduce developer uncertainty and improve the likelihood of publicly desirable outcomes. Ultimately the City will be challenged to provide sufficient flexibility for the wide array of proposals and options that emerge, while also establishing clear standards for what is desired and permitted for the station areas.

Collaboration between the public and private sector was essential in the development of several of the case studies. The public/private partnerships used to develop Contra Costa helped to generate more transit ridership for BART, provided a new source of income for the County, and helped the region accommodate future growth in an environmentally sustainable manner. The public sector was better positioned to assemble land, ease the entitlement process, and handle initial infrastructure and construction costs, while the private sector was more attuned to the real estate market, securing tenants, and deriving viable financing.

Minnetonka is already partnering with other entities, including other Southwest LRT cities such as Hopkins and St. Louis Park through processes such as TSAAP and other Hennepin County led planning efforts. Depending on the complications associated with individual parcels, Minnetonka may best be able to facilitate redevelopment in this "nexus" role by connecting developers with Hennepin County, the Metropolitan Council, and other key players when contamination or infrastructure costs require outside support.

Alexandria was a close partner with developers of the initial TOD at Eisenhower Avenue Station, the Carlyle. Beginning in the early 1990s the City worked with the developers through planning and engagement processes to ensure Carlyle would live up to the City's standards and vision for the station area. This partnership was critical in fostering the political capital needed for the massive transition from abandoned rail yard to a large-scale mixed-use development. The City assisted in the formation of the Eisenhower Public-Private Partnership, a citizens group concerned with seeing continued high-quality development and public involvement in infrastructure and development decisions affecting the station area. Even with developers knowledgeable about TOD and a involved and informed populace, the early 2000s recession required the Carlyle Development Corporation reach out to a new partner with special knowledge in retail and office planning. JM Zell Partners helped Carlyle revise its master plan, implement a new marketing approach, and secure an extremely strong anchor tenant in the U.S. Patent and Trademark Office. The story of the Eisenhower Avenue Station Area is the story of multiple groups and entities working together toward the creation of a vibrant and successful place. The success seen with TOD at the site would likely not have been possible without these relationships and partnerships between developers, the City, citizens, and consulting parties.

CHARACTERISTICS OF "THE RIGHT DEVELOPERS"

If possible, the city will need to attract a developer - or developers - with TOD experience. The City of Minnetonka has expressed interest in this goal, but has not yet identified any candidates. However, since each TOD site is so divergent from others, a few other criteria may complement the experience of having built a formal TOD.

1. Experience matters. The developer's portfolio should show examples of completed developments meeting a community's vision.
2. For this to be the case, a developer needs to believe in the vision. To ensure a commitment to the vision, Minnetonka should consider including a number of developers in its City-led site planning process.
3. The developer needs to be able to develop multiple land uses. The original developer's inability to do so caused substantial problems for Englewood, and ultimately led to the City having to become the master developer.
4. A developer needs to have the capability to work with complicated sites, and to perform land assembly at such locations. This may be the single most important characteristic of redevelopment at Shady Oak.
5. An appropriate developer must be able to demonstrate a marriage of qualitative and quantitative elements in their developments, meeting baseline economic standards with a higher than average quality of the built environment. At Shady Oak, transit is inevitable but good development is not.

In light of the complexity of Shady Oak and the fact the City will probably not assemble the parcels itself, a piecemeal development process is the most likely to occur. If the City expects this, it should clearly state so throughout the site planning process and present this as a part of its vision to the community in case the community has other desires. As the cases indicate, larger single-owner projects like Bloomington and Alexandria are likely on the decline. For a more piecemeal development to be successful, the city will need to provide a clear and direct vision for the station areas and will need to back this up with zoning mechanisms. The City's regulations will need to balance the dual node and place identities of TODs and provide for a flexibility of land uses. The conversation about the particular balance of node and place of each station needs to be done publicly as a part of the community-wide planning process. The final vision should be implemented through a revised overlay zone or PUD requirements that are in effect when a site is within a certain distance of a LRT station. At Opus covenants and private development standards may be used in lieu of an overlay zone. Dynamic cross-sector collaborations were the secret ingredient in each of the successful TODs discussed above. Seeking out relevant strategic partnerships should be a priority for Minnetonka as soon as possible.

A CONCLUDING THOUGHT

The common themes among the case studies included in this report point to a series of repeatedly needed ordinance and policy solutions for TODs. The first aspect of this is defining a clear vision and a set of defendable public objectives. This will likely emerge out of engagement processes with various key stakeholders from the public. For instance, in the Rosslyn-Ballston corridor, planners were aware of the high office demand and the influx of development proposals for Class A office space that would ensue. To ensure the corridor was balanced in its uses and orientation, the city enacted proactive policies to ensure an adequate supply of affordable housing was available, among other public objectives. These policies were then supported by strong ordinances and other legal mechanisms. To meet the demand for parking, the city utilized Travel Demand Management (TDM) in instances where parking demand outpaced the supply. These two examples are particularly pertinent for Minnetonka given the city's desire to create affordable housing opportunities in the station areas in addition to a different array of parking demands that will be unique in the city.

TOD + MTKA

PART IV:
APPENDICES AND REFERENCES

Appendix A
ENGLEWOOD FINANCING AND OWNERSHIP ISSUES

Colorado has some unique and challenging tax laws, which effectively push government revenue towards a dependence on sales tax. The Taxpayer Bill of Rights (TABOR), which was passed in 1992, is one of these laws and it prohibits the government from raising taxes or taking on long-term debt without a popular vote.

The City wanted to avoid the complexity of voting on the bonds necessary for the CityCenter Englewood project, in part because of the stability required by developers and investors. The City therefore funded the project with Certificates of Participation (COPS), which function much like bonds but which require the City Council to annually appropriate funds for debt service. The total issue of 25-year COPS funds was $21.53 million and was issued by the Englewood Environmental Foundation (EEF). According to Investopedia,[312] in a COPS sale portions of the lease are sold to investors as opposed to the bonds themselves. They are generally issued by an authority other than the government that then leases the facility to the municipality. COPS techniques are permitted for certain uses in Minnesota and have been used by local governments and state agencies for various projects. More information on COPS in Minnesota can be found in the 2012 state statutes, §16A.81[313] and §16A.85.[314] The total cost of the project for the city was $36.8 million, factoring in the City's sale of property and the COPS funds.

The Foley's property was donated to the City, as well as the bulk of the mall property. The City paid between $500,000 and $750,000 for a remaining portion of the mall building and land that housed one of the vacant anchor tenants. The City already owned the land under the parking structures and the purchase of the additional buildings gave it total and complete ownership of the site.

EEF then leased the land planned for retail to the original development partnership in a 75-year ground lease for $4.2 million. The master developer partnership evolved in the interim, so Miller Weingarten Realty signed the 75-year lease, which required a minimum of 175,000 square feet of commercial, office, and retail space.[315] The length of the ground lease has meant that the developers control the retail portion of the site and a conversion of use from retail to residential, for example, is very unlikely.

EEF also sold 12.16 acres to Wal-Mart for $3.4 million in 1999 for them to develop a Supercenter on the property. The City did not want another K-Mart, since it was perceived that the chain was no longer viable and Target did not want to develop a store on the site. Wal-Mart was the remaining large-scale general merchandiser that the City could attract. The City negotiated directly with Wal-Mart.

RFPs were released for the residential portions of the site, requiring a minimum of 30 dwelling units per acre (du/ac). Four proposals were submitted, three of which proposed to develop apartments and one proposed owner-occupied units. Because the owner-occupied units required a certain degree of pre-sales, the City was concerned that construction would lag. They ultimately settled on Trammel Crow and sold the firm 10 acres for $5 million in 2000. Trammel Crow built on two blocks on the western half of the site, adjacent to the transit station.

The Regional Transportation District (RTD) is the transit service provider to the Denver metropolitan area and was extending its first light rail line past the CityCenter site. RTD paid $5.7 million for the construction of the station area. The City worked closely with RTD to design a station area that was unique on the new light rail line and that gave Englewood a unique character. Stitt not only felt that this was accomplished but that it remains an asset that sets Englewood's station apart from others in the area.

The City and RTD split the cost of the parking structure behind the Civic Center. The 800-space garage cost $4.2 million and the City's portion was funded through the COPS funds.[316] An intergovernmental agreement between the City and RTD allows RTD to build another 400 parking spaces at the surface park-and-ride lot; however an undergrounded creek that runs under the site essentially precludes this due to the cost of diverting the creek.

EEF retains control of the former Foley's building, which was the only mall structure that was not demolished. The City has a long-term lease for the property and leases it from EEF. The maintenance of utilities in CityCenter is paid for by the City, but public spaces are maintained by a Common Area Maintenance Agreement. Property owners contribute to the fund for snow removal, trash cans, and other services for public areas. These services are managed and coordinated by EEF.

Approximately one half of the COPS funds were used on the Foley's site and one half was used for public improvements across the TOD, including the infrastructure, which is a cost usually covered by developers. The Foley's building was converted to the Englewood Civic Center and now houses City Hall, the Englewood Public Library, Englewood Municipal Court, the City's administrative offices, and the Museum of Outdoor Art (MOA).[317] MOA is a private, nonprofit organization that sub-leases 10,000 square feet from the City rent-free and receives an annual $92,000 stipend to provide art programs, permanent sculptures, temporary exhibits, and discounted art classes to the city's residents. [318]

According to Stitt, Cinderella City was a "mono-culture" of retail, which made it extremely sensitive to changes in the market. The City was concerned with creating economically sustainable development, which has allowed it to weather the ongoing recession relatively well. The City did not intend to replace the previous tax base one-to-one, and it has diversified it tax base on the site somewhat. However, in 2011, 53% of the City's revenue was drawn from sales and use taxes.[319] This is not inconsistent with other Colorado communities that must flex with TABOR and other parallel laws.

Finally, the Bates station will likely not be constructed due to ballooning construction costs. The original agreement specified that the City, RTD, and the developer each paying one-third of the cost, but as costs have escalated the developers are concerned, as are other parties. Some of this money may be spent on improving the Oxford station area or the new terminus of the southwest line which will in part be built on land owned by Englewood but which lies outside of the city limits.

Appendix B
PARKING AND TODs

Like many of the communities presented in this report, Minnetonka is largely auto-oriented. This characterization is largely the result of the City's large lot developments, low-population density, and high percentage of commuters. If the City wants to achieve the economic, environmental and transit benefits associated with development at its future stations, stakeholders will have to strike a balance between auto and pedestrian orientation. However, creating this marriage of uses can be controversial and stymie development if not approached correctly.

PARK-AND-RIDE

Scholars contest that providing free park-and-ride facilities near transit stations is the best way to maximize transit ridership and to minimize social costs.[320] This assertion is substantiated by the fact that park-and-ride facilities extend the station's catchment area by several miles and through its utilization, ensure quick and reliable access for a larger group of potential riders when compared to other forms of development.[321] Despite these advantages, park-and-ride facilities have plenty of critics. Some suggest that park-and-ride facilities are a barrier to the development of TODs and are associated with a plethora of social costs.[322] Since Minnetonka has yet to finalize its station area design plans, the City has the opportunity to collectively plan for park-and-ride structures while providing for TOD opportunities.

Across the United States, cities are rethinking their approach to providing parking in order to meet demand while also creating pedestrian-friendly environments.[323] For example, in Portland and Dallas, transit agencies have designed transit-parking facilities away from some of their transit platforms in order to encourage TOD.[324] Seattle and Baltimore have planned their station's parking early in order to maximize transit ridership, while promoting other forms of development.[325] Thus, if station design is responsibly planned and coordinated early amongst a variety of stakeholders, park-and-ride facilities and TOD can coexist at Shady Oak and Opus Station in Minnetonka.

CHARGING FOR PARKING

Many commuters are accustomed to free parking and typically overlook the substantial capital costs of providing it.[326] Although development costs of parking vary by locale, a typical surface parking space costs nearly $3,500 to build.[327] That price pales in comparison to the tens of thousands of dollars associated with the per space cost of structured and underground parking construction.[328]

These expenses have lead some reformers to suggest that localities should begin charging for parking as means to recover the high costs, both capital and social, associated with providing it.[329] Researchers suggest a market-based approach is the most equitable and efficient way to recoup the true cost of parking and to influence travel behavior.[330] This method relies on the ability to charge for parking through metering or through parking lot fees. However, charging for parking is a highly contentious issue for a variety of stakeholders that range from homeowners fearing parking spillover effects to business owners fearful of losing customers.

The City of Minnetonka has already expressed a disinterest in this type of approach due to the suburban realities and political climate of its community. Thus, charging for

parking around its LRT stations is not immediately feasible or recommended. However, once ridership levels are attained and parking capacity peaks, an incremental pricing approach could be enacted as a means to cover the maintenance costs of its parking facilities.[331]

SURFACE PARKING

Minnetonka has already expressed its interest in providing surface parking at both Shady Oak and Opus. Although this approach is the cheapest and least controversial of the alternatives, it presents challenges to ensuring the full benefits of TOD around its stations.

The City should heed the lessons of a phased surface parking approach from the Contra Costa and Mockingbird case studies. In both, surface parking was initially used to encourage transit ridership and spur development around the area. However, as residential and employment density levels were attained, the surface parking area became re-appropriated for new development. At Mockingbird Station, this resulted in the construction of a multi-level mixed used building and a parking garage.

In both cases, this phased approach was deliberately planned in order to allow the developments to mature while keeping initial construction costs down. If Minnetonka moves forward with a surface parking initiative, it needs to establish a regulatory framework that promotes the re-appropriation of its surface lots as transit and development goals are reached.

MINIMUM PARKING REQUIREMENTS

A majority of American cities have a long history of mandating that property owners provide a minimum amount of parking for each land use on a property.[332] This regulatory practice, known as minimum parking requirements, was first implemented to reduce parking congestion on public streets caused by the increasing levels of auto-ownership in the United States.[333] This practice continues today and many researchers assert that minimum parking requirements are associated with a host of negative consequences.[334]

Multiple studies have been conducted to reassess minimum parking requirements, peak demand, parking generation, and parking surpluses.[335] We will highlight two that we believe are most applicable to Minnetonka based on transit and TOD focus. Marshall and Garrick found in their study of mixed-use centers in six small cities that on average, "parking mandated by base regulations… was about two and a half times more than peak use."[336] Cervero et al also addressed the issue of parking surpluses in their study of TODs near BART and MAX LRT stations and concluded that the TODs were notably over-parked due to similar mandates.[337]

Both studies suggest that parking requirements based on the Institute of Transportation Engineers' (ITE) Parking Generation manual may be to blame.[338] In *The High Cost of Free Parking*, Donald Shoup is less subtle and asserts that parking requirements based on ITE's Parking Generation manual are problematic and lead to a wasteful oversupply of parking.[339] Looking towards future TOD and parking initiatives, Marshall and Garrick

say it best by stating, "Instead of parking requirements shaping the development of a town center, it should be the character of the town center that affects parking policies."[340]

SHARED PARKING

The shared parking approach is an affordable and politically feasible alternative that Minnetonka should use to address the problems associated with minimum parking requirements in mixed-use areas. This tactic is best summarized as when two or more land uses in close proximity are allowed to share the same parking spaces during different times of the day.[341] By allowing for and encouraging shared parking amongst developments in mixed-use areas, planners can minimize the amount of parking required by developers. This method works best when peak parking demand varies amongst its users.[342] For example, an office whose peak demand occurs during the day can share its parking spaces with a restaurant whose peak occurs at night.[343] By creating shared parking capacity rather than mandating individual establishments to provide separate lots, efficiencies in parking can be achieved and development costs can be reduced.[344]

The City of Minnetonka has validated this overall approach by mandating that "shared parking arrangements" be pursued in developments within the Southwest Light Rail Transit Overlay District.[345] Although this mandate has proved politically feasible, its regulatory framework remains extremely vague. Due to this lack of clarity, enforcement can become an issue. If Minnetonka stakeholders want to benefit from the shared parking approach, a more specific regulatory framework is needed to ensure compliance of all parties.

IN-LIEU OF PARKING FEES

Scholars suggest that cities establish in-lieu parking fees as an alternative to requiring developers to adhere to minimum parking requirements.[346] With in-lieu parking fees, developers pay the City a fee that will be used to build a centralized off-street parking structure that will be available for tenants and visitors. By consolidating parking into an attractive structure, urban design and traffic goals can be achieved while keeping development costs low.[347] However, these benefits will only be realized if the facility is conveniently located and provides enough parking to run efficiently.[348]

Since Minnetonka has considered utilizing structured parking at the Shady Oak station, the establishment of in-lieu parking fees could prove useful. The application of these fees would equitably split construction costs of parking facilities and incentivize developers to create projects that were multi-modal and pedestrian friendly.

It is our contention that Minnetonka could benefit by reevaluating its minimum parking requirements outlined in its zoning regulations for new developments in the Southwest Light Rail Transit Overlay District.[349] Through this reevaluation, the City could fully enforce a shared parking approach and consider the application of 'in lieu of' fees.

References

EXECUTIVE SUMMARY

1. "2012-2013 Partner: Minnetonka." *Resilient Communities Project*. N.p., n.d. Web. 15 Apr. 2013. http://rcp.umn.edu/home/2012-2013-partner/.

INTRODUCTION

2. Dittmar, Hank and Ohland, Gloria. *The New Transit Town: Best Practices in Transit-Oriented Development*. Washington, DC: Island Press. 2004.

MINNETONKA AND ITS PROPOSED LRT STATIONS

3. U.S. Census Bureau. (2012). "State and County QuickFacts: Minnetonka (city), Minnesota." Web. 01 Apr. 2013. http://quickfacts.census.gov/qfd/states/27/2743252.html.
4. *Ibid.*
5. *Ibid.*
6. "Metropolitan Council - Project Timeline." *Metropolitan Council - Project Timeline*. N.p., n.d. Web. 21 Apr. 2013. http://www.metrocouncil.org/Transportation/Projects/CurrentProjects/Southwest-LRT/Project-Facts/Timeline.aspx.
7. "Southwest LRT: Route & Mode." *Metropolitan Council - Route & Mode*. Metropolitan Council, n.d. Web. 21 Apr. 2013. http://metrocouncil.org/Transportation/Projects/Current-Projects/Southwest-LRT/Project-Facts/Route.aspx?source=child.
8. "Southwest LRT Project Funding." *Metropolitan Council - Project Funding*. Metropolitan Council, n.d. Web. 21 Apr. 2013. http://metrocouncil.org/Transportation/Projects/Current-Projects/Southwest-LRT/Grants-Funding-(SWLRT).aspx.
9. "Southwest LRT Community Works, Southwest Corridor-wide Housing Inventory" Maxfield Research, Inc., 28 Mar. 2013. Web. 21 Apr. 2013. http://www.southwesttransitway.org/dmdocuments/SW-Housing-Inventory-Final.pdf.
10. "Metropolitan Council - Project Timeline." *Metropolitan Council - Project Timeline*. N.p., n.d. Web. 21 Apr. 2013. http://www.metrocouncil.org/Transportation/Projects/CurrentProjects/Southwest-LRT/Project-Facts/Timeline.aspx.
11. "Comprehensive LRT System Plan for Hennepin County." *Downloads/ Comprehensive LRT System Plan for Hennepin County/Archive*. BRW, Inc., 21 June 1988. Web. 21 Apr. 2013. http://www.southwesttransitway.org/technical-documents/cat_view/57-archive/65-comprehensive-lrt-system-plan-for-hennepin-county.html .
12. *Ibid.*
13. "City of Minnetonka." *Southwest LRT Project Information*. City of Minnetonka, 29 Mar. 2013. Web. 21 Apr. 2013. http://www.eminnetonka.com/news_events/show_project.cfm?link_id=southwest_transitway .
14. "Comprehensive LRT System Plan for Hennepin County." *Downloads / Comprehensive LRT System Plan for Hennepin County / Archive*. BRW, Inc., 21 June 1988. Web. 21 Apr. 2013. http://www.southwesttransitway.org/technical-documents/cat_view/57-archive/65-comprehensive-lrt-system-plan-for-hennepin-county.html .
15. City of Minnetonka." *Southwest LRT Project Information*. City of Minnetonka, 29 Mar. 2013. Web. 21 Apr. 2013. http://www.eminnetonka.com/news_events/

show_project.cfm?link_id=southwest_transitway .
16. *Ibid.*
17. "Southwest LRT Project Timeline." *Metropolitan Council - Project Timeline*. Metropolitan Council, n.d. Web. 21 Apr. 2013. http://www.metrocouncil.org/Transportation/Projects/Current-Projects/Southwest-LRT/Project-Facts/Timeline.aspx.
18. *Ibid.*
19. *Ibid.*
20. *Ibid.*
21. *Shady Oak Station. 22 Dec 2006. Southwest Transitway Alternatives Analysis Alignment Plan. Minnetonka.*
22. *2030 Comprehensive Guide Plan. Rep. Minnetonka: City of Minnetonka, 2009*. Print.
23. *Ibid.*
24. Center for Transit-Oriented Development. *TOD 203: Transit Corridors and TOD: Connecting The Dots Is Important*. Tech. no. CA-26-1007.04. Oakland: Reconnecting America, 2010. 1-28. Print.
25. Center for Transit-Oriented Development. *TOD 202: Station Area Planning: How to Make Great Transit-Oriented Places*. Tech. no. CA-26-1007. Oakland: Reconnecting America, 2008. 1-28. Print.
26. *Ibid.*
27. "Southwest LRT Community Works, Southwest Corridor-wide Housing Inventory" Maxfield Research, Inc., 28 Mar. 2013. Web. 21 Apr. 2013. http://www.southwesttransitway.org/dmdocuments/SW-Housing-Inventory-Final.pdf.
28. "Metropolitan Council - Project Timeline." *Metropolitan Council - Project Timeline*. N.p., n.d. Web. 21 Apr. 2013. http://www.metrocouncil.org/Transportation/Projects/CurrentProjects/Southwest-LRT/Project-Facts/Timeline.aspx.
29. *Opus Station. 22 Dec 2006. Southwest Transitway Alternatives Analysis Alignment Plan. Minnetonka*.
30. *2030 Comprehensive Guide Plan. Rep. Minnetonka: City of Minnetonka, 2008*. Print.
31. *Minnetonka Transit Study. Metro Transit, in cooperation with the City of Minnetonka, 2012. 1-18. Print.*
32. Center for Transit-Oriented Development. *TOD 202: Station Area Planning: How to Make Great Transit-Oriented Places*. Tech. no. CA-26-1007. Oakland: Reconnecting America, 2008. 1-28. Print.
33. *Ibid.*
34. *Ibid.*
35. "Southwest LRT Community Works, Southwest Corridor-wide Housing Inventory" Maxfield Research, Inc., 28 Mar. 2013. Web. 21 Apr. 2013. http://www.southwesttransitway.org/dmdocuments/SW-Housing-Inventory-Final.pdf.
36. "Metropolitan Council - Project Timeline." *Metropolitan Council - Project Timeline*. N.p., n.d. Web. 21 Apr. 2013. http://www.metrocouncil.org/Transportation/Projects/CurrentProjects/Southwest-LRT/Project-Facts/Timeline.aspx.

CONTRA COSTA, CALIFORNIA

37. "State and County QuickFacts: Pleasant Hill (city), California." *State and County Quick Facts*. U.S. Census Bureau, n.d. Web. 27 Apr. 2013. <http://quickfacts.census.gov/qfd/ states/06/0657764.html>.
38. *Ibid.*
39. *Ibid.*
40. Data from American Public Transportation Association ridership reports.
41. "Contra Costa Centre Transit Village." *Institute of Transportation Engineers -- ITE*. Congress for New Urbanism, n.d. Web. 09 Mar. 2013. http://www.ite.org/css/http://www.ite.org/css/ContraCosta.pdf.
42. "Pleasant Hill BART Station Area: Summary Report." *Pleasant Hill BART Station Area: Summary Report*. N.p., Oct. 2001. Web. http://www.co.contra-costa.CA.us/depart/cd/charette/outcome/1 Introduction.pdf
43. "Transit-Oriented Development Through Public/Private Partnerships." *Fact Sheet*. N.p., 15 Sept. 2010. Web. 15 Mar. 2013. http://centrepoints.org/pdf/PHBARTFactSheetPART91510.pdf
44. "Contra Costa Centre Transit Village." *Institute of Transportation Engineers -- ITE*. Congress for New Urbanism, n.d. Web. 09 Mar. 2013. http://www.ite.org/css/http://www.ite.org/css/ContraCosta.pdf.
45. "Transit-Oriented Development Through Public/Private Partnerships." *Fact Sheet*. N.p., 15 Sept. 2010. Web. 15 Mar. 2013. http://centrepoints.org/pdf/PHBARTFactSheetPART91510.pdf
46. Dunphy, Robert. "Developing Around Transit." slideshow for the "Dulles Area Transportation Association Transit Oriented Development Seminar." Urban Land Institute. 10 Oct. 2005.
47. Statistics were taken from: http://www.city-data.com
48. "Contra Costa Centre Transit Village." *Institute of Transportation Engineers -- ITE*. Congress for New Urbanism, n.d. Web. 09 Mar. 2013. http://www.ite.org/css/http://www.ite.org/css/ContraCosta.pdf.
49. "Amended Pleasant Hill BART Station Area Specific Plan." Contra Costa County Board of Supervisors, 06 Oct. 1998. Web. 21 Feb. 2013. http://www.ccreach.org/ccc_redevelopment/PHB%20Specific%20Plan.pdf
50. "Contra Costa Centre Transit Village." *Institute of Transportation Engineers -- ITE*. Congress for New Urbanism, n.d. Web. 09 Mar. 2013. http://www.ite.org/css/http://www.ite.org/css/ContraCosta.pdf.
51. Dunphy, Robert. "Developing Around Transit." slideshow for the "Dulles Area Transportation Association Transit Oriented Development Seminar." Urban Land Institute. 10/10/2005.
52. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004. Print.
53. "The New Pleasant Hill BART Station Property Code: Architectural Standards." Geoffrey Ferrell and Associates, n.d. Web. http://www.co.contra-costa.CA.us/depart/cd/charrette/outcome/PH%20Arch%20CODE%20Final.PDF
54. "CCC." Contra Costa Centre. N.p., n.d. Web. 09 Mar. 2013. http://www.contracostacentre.com/
55. "Transit-Oriented Development Through Public/Private Partnerships." *Fact Sheet*. N.p., 15 Sept. 2010. Web. 15 Mar. 2013. http://centrepoints.org/pdf/PHBARTFactSheetPART91510.pdf

56. Arrington, G. B., and Robert Cervero. *Effects of TOD on Housing, Parking, and Travel*. Washington, D.C.: Transportation Research Board, 2008. Print.
57. "Contra Costa Centre Transit Village." *Institute of Transportation Engineers -- ITE*. Congress for New Urbanism, n.d. Web. 09 Mar. 2013. http://www.ite.org/css/http://www.ite.org/css/ContraCosta.pdf.
58. "What Is Redevelopment." *Contra Costa Redevelopment Agency*. California Redevelopment Association, n.d. Web. http://www.ccreach.org/ccc_redevelopment/WhatisRedevelopment.cfm.
59. "Contra Costa Centre Promotional Newsletter." *Contra Costa Centre.* N.p., n.d. Web. http://www.contracostacentre.com/files/CCCA_SFBT_10022010.pdf.
60. Kennedy, Jim. "Patient Capital, TOD, and Public Real Estate Asset Management." Contra Costa County, 06 Nov. 2006. Web. http://www.railvolution.org/rv2006_pdfs/rv2006_104a.pdf
61. "Pleasant Hill BART Station Area: Summary Report." *Pleasant Hill BART Station Area: Summary Report*. N.p., Oct. 2001. Web. <http://www.co.contra-costa.CA.us/depart/cd/charette/outcome/1 Introduction.pdf>.
62. Dunphy, Robert. "Developing Around Transit." slideshow for the "Dulles Area Transportation Association Transit Oriented Development Seminar." Urban Land Institute. 10 Oct. 2005.

DALLAS, TEXAS

63. U.S. Census Bureau. (2012)."State and County QuickFacts: Dallas (city), Texas." Web. 01 Apr. 2013. http://quickfacts.census.gov/qfd/states/48/4819000.html.
64. *Ibid.*
65. *Ibid.*
66. "DART.org- Mockingbird Station Area Factsheet." DART.org- Mockingbird Station Area Fact Sheet, N.p., n.d. Web. 26 Mar. 2013. http://www.dart.org/about/economicdevelopment/factsheets/Mockingbird.pdf/.
67. *Ibid.*
68. "Mockingbird Station (Award)." *ULI Development Case Studies*. Urban Land Institute, 2008. Web. 24 Mar. 2013. http://casestudies.uli.org/Profile.aspx?j=8262&p=2&c=4.
69. Ibid.
70. "Transit Oriented Development Best Practices." *Best Practices | Transit Oriented Development | Greater Cleveland Regional Transit Authority.* Greater Cleveland Regional Transit Authority, Feb. 2007. Web. 01 Apr. 2013. http://www.riderta.com/tod/best_practices/.
71. "Facts about Dallas Area Rapid Transit (DART)." *DART.org.* Dallas Area Rapid Transit, 26 Feb. 2013. Web. 01 Apr. 2013. https://www.dart.org/about/dartfacts.asp
72. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004. Print.
73. *Ibid.*
74. Facts about Dallas Area Rapid Transit (DART)." *DART.org.* Dallas Area Rapid Transit, 26 Feb. 2013. Web. 01 Apr. 2013. https://www.dart.org/about/dartfacts.asp
75. "Mockingbird Station, Dallas, Texas." *Mockingbird Station, Dallas, Texas - Get Transit-Oriented*. Get Transit-Oriented..., 30 Apr. 2011. Web. 26 Mar. 2013.

http://www.transit-oriented.com/?p=20.
76. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004. Print.
77. "Mockingbird Station (Award)." *ULI Development Case Studies*. Urban Land Institute, 2008. Web. 24 Mar. 2013. http://casestudies.uli.org/Profile.aspx?j=8262&p=2&c=4.
78. Brown, Steve. "Mockingbird Station Expanding." *UCR Urban - Putting Retail in Its Place*. UCR Urban, 12 April. 2007. Web. 26 Mar. 2013. http://www.ucrurban.com/press_detail.php?sec=4&id=111
79. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004. Print.
80. *Ibid.*
81. *Ibid.*
82. Brown, Steve. "Mockingbird Station Expanding." U*CR Urban - Putting Retail in Its Place*. UCR Urban, 12 April. 2007. Web. 26 Mar. 2013. http://www.ucrurban.com/press_detail.php?sec=4&id=111
83. "TOD TIF District Project Plan and Reinvestment Zone Financing Plan." *Transit Oriented Development (TOD) Tax Increment Financing (TIF) District*. Dallas Economic Development, 10 Nov. 2010. Web. 08 Apr. 2013. http://www.dallas-ecodev.org/incentives/tifs-pids/tod-tif/.
84. "Mockingbird Station (Award)." *ULI Development Case Studies*. Urban Land Institute, 2008. Web. 24 Mar. 2013. http://casestudies.uli.org/Profile.aspx?j=8262&p=2&c=4.
85. Gordon, Loren. "Capstone Update." Personal interview. 29 Mar. 2013.

CHAMBLEE, GEORGIA

86. State and County QuickFacts: Chamblee (city), Georgia." *State and County Quick Facts*. U.S. Census Bureau, n.d. Web. 27 Apr. 2013. http://quickfacts.census.gov/qfd/states/13/1315172.html
87. *Ibid*.
88. *Ibid*.
89. "City History." *Chamblee, GA*. City of Chamblee, n.d. Web. 18 Feb. 2013. http://chambleega.com/index.aspx?nid=127
90. *Ibid.*
91. *Ibid.*
92. *Ibid.*
93. *Ibid.*
94. *Ibid.*
95. *Ibid.*
96. *Ibid.*
97. *Ibid.*
98. *Ibid.*
99. *Ibid.*
100. "About MARTA: MARTA's Past and Future." *About MARTA*. MARTA, 2009. Web. 18 Feb. 2013. http://www.itsmarta.com/marta-past-and-future.aspx
101. "City of Chamblee: 10th Year Comprehensive Plan Update." *City of Chamblee, GA*. Ayer, MA: Ross and Associates, 2006. Web. http://www.dca.ga.gov/largefiles/OPQG/2006/ChambleeCi.CAg.pdf

102. "City of Chamblee: 10th Year Comprehensive Plan Update." *City of Chamblee, GA*. Ayer, MA: Ross and Associates, 2006. Web. http://www.dca.ga.gov/largefiles/OPQG/2006/ChambleeCi.CAg.pdf
103. *Ibid.*
104. *Ibid.*
105. *Ibid.*
106. *Ibid.*
107. *Ibid.*
108. *Ibid.*
109. *Ibid.*
110. *Ibid.*
111. Hill, Karen. "In Chamblee, A Community Emerges." *The Atlanta Journal-Constitution*. 24 Mar. 2005. Web. 09 Feb. 2013.
112. *Ibid.*
113. "Private Development." Chamblee: A City on the Right Track. Chamblee, GA, 2013. Web. 19 Feb. 2013. http://chambleega.com/index.aspx?nid=127
114. *Ibid.*
115. *Ibid.*
116. *Ibid.*
117. *Ibid.*
118. *Ibid.*
119. *Ibid.*
120. Fleming, Sibley. "Chamblee Council to Vote on Wal-Mart." *Dunwoody Crier* [Dunwoody, Georgia]. 13 Apr. 2004: Web. 19 Feb. 2013.
121. *Ibid.*
122. *Ibid.*
123. *Ibid.*
124. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004. Print. p. 479.
125. Metropolitan Atlanta Transit Authority (MARTA). Schedules and Maps: Chamblee. 2009. MARTA. Web. 21 Feb. 2013. http://itsmarta.com/
126. City of Chamblee, Georgia. "Locations." Chamblee: A City on the Right Track. Chamblee, GA, 2013. Web. 21 Feb. 2013. http://chambleega.com/index.aspx?nid=127
127. "City of Chamblee: 10th Year Comprehensive Plan Update." *City of Chamblee, GA*. Ayer, MA: Ross and Associates, 2006. Web. http://www.dca.ga.gov/largefiles/OPQG/2006/ChambleeCi.CAg.pdf.
128. *Ibid.* p. 31.
129. *Ibid.* p. 31.
130. *Ibid*. p. 31.
131. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004. Print. p. 433.
132. *Ibid.* p. 442.
133. *Ibid.* p. 442.
134. City of Chamblee, Georgia. Chamblee Development Department. City of Chamblee Code of Ordinances, Appendix A: Zoning Ordinance. Chamblee: City of Chamblee, GA, 2006. Web. 21 Feb. 2013. http://chambleega.com/index.aspx?nid=127

135. State and County QuickFacts: Chamblee (city), Georgia." *State and County Quick Facts*. U.S. Census Bureau, n.d. Web. 27 Apr. 2013. http://quickfacts.census.gov/qfd/states/13/1315172.html
136. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004. Print. p. 455.
137. *Ibid.* p. 463.
138. United States. Department of Commerce. U.S. Census Bureau. Selected Housing Characteristics: 2007-2011 American Community Survey 5-Year Estimates. American Community Survey, 2011. Web. 21 Feb. 2013.
139. *Ibid.*
140. *Ibid*. p. 37.

ENGLEWOOD, COLORADO

141. "State and County QuickFacts: Aurora (city), Colorado." *State and County Quick Facts. U.S. Census Bureau*, n.d. Web. 17 Apr. 2013. http://quickfacts.census.gov/qfd/states/08/0804000.html
142. *Ibid*.
143. *Ibid*.
144. "CityCenter Englewood: Englewood, Colorado." City of Englewood. Web. 22 Feb. 2013. http://www.englewoodgov.org/Modules/ShowDocument.aspx?documentid=662
145. Author Unknown. (n.d.) "Cinderella City History." Document provided by Harold Stitt, via email, 2/13/13. p. 3
146. *Ibid*. p. 6.
147. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004. Print.
148. Tiebout, Charles M. "A Pure Theory of Local Expenditures." *Journal of Political Economy* 64.5 (1956): 416-24. Print.

AURORA, COLORADO

149. "State and County QuickFacts: Aurora (city), Colorado." *State and County Quick Facts*. U.S. Census Bureau, n.d. Web. 17 Apr. 2013. http://quickfacts.census.gov/qfd/states/08/0804000.html
150. *Ibid.*
151. *Ibid.*
152. *Ibid*.
153. "Transit-Oriented Development (TOD) District". City of Aurora Colorado. Web. 25 Mar. 13. https://www.auroragov.org/cs/groups/public/ documents/document/012622.pdf
154. *Ibid*. p. 6.
155. *Ibid*. p. 9.
156. *Ibid*. p. 10.
157. Ehlers and Associates. "New and Enhanced Tools to Promote Effective Transit Oriented Development: A Case Study for Minnesota." [pdf]. December 21, 2012. Included in the January 24, 2013 meeting minutes of the City of Minnetonka Economic Development Advisory Commission

ALEXANDRIA, VIRGINIA

158. "State and County QuickFacts: Alexandria (city), Virginia." *State and County Quick Facts*. U.S. Census Bureau, n.d. Web. 29 Apr. 2013. http://quickfacts.census.gov/qfd/states/51/5101000.html
159. Ibid.
160. Ibid.
161. "Metro Home Page." Washington Metropolitan Area Transit Authority, n.d. Web. 04 Apr. 2013. http://www.wmata.com/
162. Ibid.
163. Google Inc. (2009). Google Earth (Version 5.1.3533.1731) [Software].
164. "Metro Home Page." Washington Metropolitan Area Transit Authority, n.d. Web. 04 Apr. 2013. http://www.wmata.com/
165. "Historic Alexandria / City of Alexandria, VA." *Historic Alexandria / City of Alexandria, VA*. N.p., n.d. Web. 04 Apr. 2013. http://alexandriava.gov/historic/
166. Ibid.
167. Kelly, John. "Answer Man Uncovers a Memorial to a Dream." *Washington Post*. The Washington Post, 27 Aug. 2006. Web. 09 May 2013. http://www.washingtonpost.com/wpdyn/content/article/2006/08/26/AR2006082600610.html
168. Ibid.
169. Ibid.
170. Ibid.
171. Ibid.
172. Ibid.
173. "Metro Home Page." Washington Metropolitan Area Transit Authority, n.d. Web. 04 Apr. 2013. http://www.wmata.com/
174. Schrag, Zachary. "Building the Washington Metro." *Building the Washington Metro*. N.p., 2006. Web. 09 Apr. 2013. http://chnm.gmu.edu/metro/
175. "Metro Home Page." Washington Metropolitan Area Transit Authority, n.d. Web. 04 Apr. 2013. http://www.wmata.com/
176. Ibid.
177. Krouse, Sarah. "Metro Oks Eisenhower Avenue Station Work." *Washington Business Journal*, 25 Mar. 2010. Web. 12 Apr. 2013.
178. "Carlyle Streetscape Design Guidelines." *Design Guidelines*. LandDesign, Inc., Apr. 1994. Web. 09 Apr. 2013. http://alexandriava.gov/planning/info/default.aspx?id=14676
179. JM Zell Partners, LTD. "Carlyle Development Corporation," 2005. Web. 09 Apr. 2013.
180. Ibid.
181. "Carlyle Streetscape Design Guidelines." *Design Guidelines*. LandDesign, Inc., Apr. 1994. Web. 09 Apr. 2013. http://alexandriava.gov/planning/info/default.aspx?id=14676
182. Cooper, Robertson, and Partners. "Carlyle Master Plan." 2012. Web. 09 Apr. 2013.
183. "Eisenhower East Small Area Plan." *Eisenhower East Plan Documents Page / Planning & Zoning / City of Alexandria, VA*. City of Alexandria, Apr. 2003. Web. 09 May 2013. http://alexandriava.gov/planning/info/default.aspx?id=43142
184. Ibid.

185. Ibid.
186. Ibid.
187. Ibid.
188. Ibid.
189. Ibid.
190. Ibid.
191. Ibid.
192. Ibid.
193. JM Zell Partners, LTD. "Carlyle Development Corporation," 2005. Web. 09 Apr. 2013
194. Ibid.
195. Ibid.
196. Ibid.
197. Ibid.
198. Ibid.
199. LCOR Incorporated. "US Patent and Trademark Office Headquarters Campus." 2011. Web. 10 Apr. 2013.
200. Syska Hennessy Group Inc., "USPTO Makes Its Mark with Consolidation." Buildings: Smarter Facility Management. 25 Sep. 2006. Web. 10 Apr. 2013.
201. Ibid.
202. Ibid.
203. Ibid.
204. Ibid.
205. Ibid.
206. LCOR Incorporated. "US Patent and Trademark Office Headquarters Campus." 2011. Web. 10 Apr. 2013.
207. Syska Hennessy Group Inc., "USPTO Makes Its Mark with Consolidation." Buildings: Smarter Facility Management. 25 Sep. 2006. Web. 10 Apr. 2013.
208. Grant, Gross. "USPTO to Open Satellite Office in Silicon Valley." *PC World Magazine*. N.p., 2 July 2012. Web. 09 May 2013. http://www.pcworld.com/article/258662/uspto_to_open_satellite_office_in_silicon_valley.html
209. LCOR Incorporated. "US Patent and Trademark Office Headquarters Campus." 2011. Web. 10 Apr. 2013.
210. Ibid.
211. Ibid.
212. JM Zell Partners, LTD. "Carlyle Development Corporation," 2005. Web. 09 Apr. 2013.
213. "Eisenhower East Small Area Plan." *Eisenhower East Plan Documents Page / Planning & Zoning / City of Alexandria, VA*. City of Alexandria, Apr. 2003. Web. 09 May 2013. http://alexandriava.gov/planning/info/default.aspx?id=43142
214. Ibid.
215. "Hoffman Town Center". Hoffman Management Company. 2012. Web. Apr. 10 2013.
216. Durham-Vichr, Deborah. "Hoffman Town Center -- Bright Spot in Retail Desert." *Widgets RSS*. Washington Business Journal, 17 Jan. 2000. Web. 11 Apr. 2013. http://www.bizjournals.com/washington/stories/2000/01/17/focus4.

html?page=all
217. *Ibid.*
218. *Ibid.*
219. Google Inc. (2009). Google Earth (Version 5.1.3533.1731) [Software]
220. "Reston Town Center." *Welcome to the Reston Town Center*. N.p., n.d. Web. 11 Apr. 2013. http://www.restontowncenter.com/index.php
221. *Ibid.*
222. Durham-Vichr, Deborah. "Hoffman Town Center -- Bright Spot in Retail Desert." *Widgets RSS*. Washington Business Journal, 17 Jan. 2000. Web. 11 Apr. 2013. http://www.bizjournals.com/washington/stories/2000/01/17/focus4.html?page=all
223. "Recently Completed: I-95/495 and Telegraph Road." *I-95/495 and Telegraph Road*. Virginia Department of Transportation, 27 Mar. 2013. Web. 09 May 2013. http://www.virginiadot.org/projects/northernvirginia/telegraph_interchange.asp.
224. Durham-Vichr, Deborah. "Hoffman Town Center -- Bright Spot in Retail Desert." *Widgets RSS*. Washington Business Journal, 17 Jan. 2000. Web. 11 Apr. 2013. http://www.bizjournals.com/washington/stories/2000/01/17/focus4.html?page=all.
225. Google Inc. (2009). Google Earth (Version 5.1.3533.1731) [Software].
226. "Hoffman Town Center". Hoffman Management Company. 2012. Web. Apr. 10 2013.
227. De La Garza Mulholland, Sharon. "Old Industrial Sites Getting Cleaned Up and Showed Off." *Washington Business Journal,* 15 Jan. 2002. Web. 11 Apr. 2013.
228. *Ibid.*
229. Krouse, Sarah. "Metro Oks Eisenhower Avenue Station Work." W*ashington Business Journal*, 25 Mar. 2010. Web. 12 Apr. 2013.
230. *Ibid.*
231. *Ibid.*
232. *Ibid.*
233. "Eisenhower East Small Area Plan." *Eisenhower East Plan Documents Page / Planning & Zoning / City of Alexandria, VA*. City of Alexandria, Apr. 2003. Web. 09 May 2013. http://alexandriava.gov/planning/info/default.aspx?id=43142.
234. Krouse, Sarah. "Metro Oks Eisenhower Avenue Station Work." *Washington Business Journal*, 25 Mar. 2010. Web. 12 Apr. 2013.
235. "Eisenhower East Small Area Plan." *Eisenhower East Plan Documents Page / Planning & Zoning / City of Alexandria, VA*. City of Alexandria, Apr. 2003. Web. 09 May 2013. http://alexandriava.gov/planning/info/default.aspx?id=43142.
236. *Ibid.*
237. Krouse, Sarah. "Metro Oks Eisenhower Avenue Station Work." W*ashington Business Journal*, 25 Mar. 2010. Web. 12 Apr. 2013.
238. *Ibid.*
239. "Real Estate Tax." *Finance Department*. City of Alexandria, 2013. Web. 09 May 2013. http://alexandriava.gov/RealEstateTax.
240. "Alexandria Approves New Source for Metro Funds." *Washington Examiner.* N.p., 22 Dec. 2010. Web. 09 May 2013. http://washingtonexaminer.com/alexandria-approves-new-source-for-metro-funds/article/108658 .

241. *Ibid.*
242. *Ibid.*
243. *Ibid.*
244. "Eisenhower East Small Area Plan." *Eisenhower East Plan Documents Page / Planning & Zoning / City of Alexandria, VA*. City of Alexandria, Apr. 2003. Web. 09 May 2013. http://alexandriava.gov/planning/info/default.aspx?id=43142.
245. *Ibid.*
246. "Hoffman Town Center". Hoffman Management Company. 2012. Web. Apr. 10 2013.
247. "About the Partnership." Eisenhower Partnership. N.p., n.d. Web. 09 May 2013. http://www.eisenhowerpartnership.org/about
248. *Ibid.*
249. Kelly, John. "Answer Man Uncovers a Memorial to a Dream." *Washington Post*. The Washington Post, 27 Aug. 2006. Web. 09 May 2013. http://www.washingtonpost.com/wpdyn/content/article/2006/08/26/AR2006082600610.html.
250. *Ibid.*
251. *Ibid.*
252. *Ibid.*
253. "Beltway's Tallest Building to Break Ground in October." W*ashington Business Journal*. 25 Aug. 2011. Web. 09 May 2013. http://www.bizjournals.com/washington/breaking_ground/2011/08/beltways-tallest-building-to-break.html .
254. Kelly, John. "Answer Man Uncovers a Memorial to a Dream." *Washington Post*. The Washington Post, 27 Aug. 2006. Web. 09 May 2013. http://www.washingtonpost.com/wpdyn/content/article/2006/08/26/AR2006082600610.html.

ROSSLYN-BALLSTON CORRIDOR, VIRGINIA

255. "State and County QuickFacts: Arlington County, Virginia." *State and County Quick Facts*. U.S. Census Bureau, n.d. Web. 29 Apr. 2013. http://quickfacts.census.gov/qfd/states/51/51013.html .
256. *Ibid.*
257. *Ibid.*
258. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004. Print. P.133.
259. Parris, Mark. "The Rosslyn-Ballston Corridor: Early Visions." Arlington County Department of Community Planning, Housing, and Development, Feb. 1989. Web. https://www.arlingtonva.us/departments/CPHD/planning/docs/pdf/file67560.pdf.
260. Weaver, Susan. "Large Community Case Study: Rosslyn-Ballston Corridor, Arlington, Virginia." Long Island Index, Jan. 2011. Web. 21 Mar. 2013. https://liiproduction.s3.amazonaws.com/cms-uploads/presses/24/Case_Study_Rosslyn_Ballston_Corridor.pdf
261. "WMATA Facts." *About Metro*. Washington Metropolitan Area Transit Authority, 21 Mar. 2013. Web. http://www.wmata.com/about_metro/?forcedesktop=1
262. *Rosslyn-Ballston Corridor: 30 Years of TOD*. Division of Transportation: Arlington County Department of Environmental Services, n.d. PDF. http://www.

dullescorridorrail.com/pdf/TOD_Leach_ArlCo.pdf.
263. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004.
264. Schrag, Zachary M. *The Great Society Subway: A History of the Washington Metro.* Baltimore: Johns Hopkins UP, 2006. Print.
265. Rich, William. "Rosslyn-Ballston Corridor Remains One of Washington Area's Strongest." *Washington Post.* 07 Sept. 2012. Web. 09 May 2013. http://articles.washingtonpost.com/2012-09-07/business/35496914_1_corridor-vacancy-rate-apartments
266. Arlington County (Department of Community Planning). *Rosslyn Transit Station Area Study.* October, 1977.
267. Parris, Mark. "The Rosslyn-Ballston Corridor: Early Visions." Arlington County Department of Community Planning, Housing, and Development, Feb. 1989. Web. https://www.arlingtonva.us/departments/CPHD/planning/docs/pdf/file67560.pdf
268. Weaver, Susan. "Large Community Case Study: Rosslyn-Ballston Corridor, Arlington, Virginia." Long Island Index, Jan. 2011. Web. 21 Mar. 2013. https://liiproduction.s3.amazonaws.com/cms-uploads/presses/24/Case_Study_Rosslyn_Ballston_Corridor.pdf
269. Parris, Mark. "The Rosslyn-Ballston Corridor: Early Visions." Arlington County Department of Community Planning, Housing, and Development, Feb. 1989. Web. https://www.arlingtonva.us/departments/CPHD/planning/docs/pdf/file67560.pdf
270. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004.
271. Weaver, Susan. "Large Community Case Study: Rosslyn-Ballston Corridor, Arlington, Virginia." Long Island Index, Jan. 2011. Web. 21 Mar. 2013. https://liiproduction.s3.amazonaws.com/cms-uploads/presses/24/Case_Study_Rosslyn_Ballston_Corridor.pdf
272. Rosslyn Transit Station Area Study. Arlington County: Department of Community Planning, Oct. 1977. PDF.
273. *Ibid.*
274. *Ibid.*
275. *The Rosslyn-Ballston Corridor: Mid-Course Review*. Arlington County: Department of Community Planning, May 1989. PDF
276. *Ibid.*
277. *Ibid.*
278. *Ibid.*
279. *Rosslyn-Ballston Corridor Streetscape Standards*. Virginia Department of Community Planning: Arlington County, May 2003. PDF.
280. *Rosslyn-Ballton Corridor Retail Action Plan*. Arlington County: Planning Commission, May 2001. PDF. http://www.arlingtonva.us/Departments/CPHD/planning/docs/pdf/retail_action.pdf.
281. *Ibid.*
282. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004. Pg. 150
283. *40 Years of Smart Growth*. Arlington County: Department of Community Planning, Dec. 2012. PDF. http://www.arlingtonva.us/departments/CPHD/

planning/powerpoint/rbpresentation/rbpresentation_060107.pdf.
284. *Ibid.*
285. Weaver, Susan. "Large Community Case Study: Rosslyn-Ballston Corridor, Arlington, Virginia." Long Island Index, Jan. 2011. Web. 21 Mar. 2013. https://liiproduction.s3.amazonaws.com/cms-uploads/presses/24/Case_Study_Rosslyn_Ballston_Corridor.pdf
286. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004.
287. *40 Years of Smart Growth*. Arlington County: Department of Community Planning, Dec. 2012. PDF. http://www.arlingtonva.us/departments/CPHD/planning/powerpoint/rbpresentation/rbpresentation_060107.pdf.
288. Dittmar, Hank, and Gloria Ohland. *The New Transit Town: Best Practices in Transit-oriented Development*. Washington, DC: Island, 2004.
289. *Ibid.*
290. Schrag, Zachary M. *The Great Society Subway: A History of the Washington Metro.* Baltimore: Johns Hopkins UP, 2006. Print.
291. Terry, Allison. "Voter Turnout: The 6 States That Rank the Highest and Why." *Christian Science Monitor*. 6 Nov. 2012. Web. 18 Apr. 2013. http://www.csmonitor.com/USA/Elections/2012/1106/Voter-turnout-the-6-statesthatrank-highest-and-why/Minnesota.

BLOOMINGTON, MINNESOTA

292. "State and County QuickFacts: Bloomington (city), Minnesota." *State and County Quick Facts.* U.S. Census Bureau, n.d. Web. 13 Apr. 2013. http://quickfacts.census.gov/qfd/states/27/2706616.html
293. *Ibid.*
294. *Ibid.*
295. Farnham, Julie. Email correspondence. 27 Feb. 2013.
296. Fable, Mark. In-class presentation and comments. 3 Apr. 2013.
297. South Loop Streetscape Master Plan and Lindau Link Streetscape Project (DRAFT). City of Bloomington: Planning Division, Mar. 2013. PDF http://www.ci.bloomington.mn.us/cityhall/dept/commdev/planning/longrang/southloop/pdfs/3_03_02circulation.pdf. p. 3.51.
298. South Loop Streetscape Master Plan and Lindau Link Streetscape Project (DRAFT). City of Bloomington: Planning Division, Mar. 2013. PDF http://www.ci.bloomington.mn.us/cityhall/dept/pubworks/engineer/streets/curr_proj/2012803/ws1handout.pdf.
299. Farnham, Julie. Email correspondence. 11 Apr. 2013.
300. *Ibid*.

CONCLUSIONS AND RECOMMENDATIONS

301. Dunphy, Robert. "Developing Around Transit." slideshow for the "Dulles Area Transportation Association Transit Oriented Development Seminar." Urban Land Institute. 10 Oct. 2005.
302. "Transit-Oriented Development (TOD) District". City of Aurora Colorado. Web. 25 Mar. 13. https://www.auroragov.org/cs/groups/public/ documents/document/012622.pdf. p. 9.
303. "Carlyle Master Plan." *Cooper, Robertson & Partners*. N.p., 2012. Web. 09 May

2013. http://www.cooperrobertson.com/what_we_do/projecttype/cities/carlyleva.php
304. Fable, Mark. In-class presentation and comments. 3 Apr. 2013.
305. Terry, Allison. "Voter Turnout: The 6 States That Rank the Highest and Why." *Christian Science Monitor*. 6 Nov. 2012. Web. 18 Apr. 2013. http://www.csmonitor.com/USA/Elections/2012/1106/Voter-turnout-the-6-statesthatrank-highest-and-why/Minnesota
306. Putnam, Robert D. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon & Schuster, 2000. Print.
307. "Beltline Area Framework & Design Guidelines." *Beltline Station Design Guidelines.* N.p., n.d. Web. 15 Apr. 2013. http://www.stlouispark.org/develoment-planning-study/beltline-station-design-guidelines.html
308. Schively-Slotterback, Carissa. "Development Interview." Personal interview. 22 Apr. 2013.
309. "City of Minneapolis, Minnesota." *Code of Ordinances*. Municode, n.d. Web. 26 Apr. 2013. http://library.municode.com/index.aspx?clientId=11490.
310. Elazar, Daniel Judah. *American Federalism: A View from the States*. New York: Harper & Row, 1972. Print.
311. *Ibid.*

APPENDIX A: ENGLEWOOD FINANCING AND OWNERSHIP ISSUES

312. "Certificate of Participation - COP." *Certificate of Participation (COP) Definition*. Investopedia, n.d. Web. 30 Mar. 2013. http://www.investopedia.com/terms/c/certificateofparticipation.asp Minnesota Office of the Revisor of Statutes." 2012 Minnesota Statutes." [website]. Accessed 3/30/13 from https://www.revisor.mn.gov/statutes/?id=16A.81&year=2012&keyword_type=exact&keyword=certificates+of+participation.
313. "2012 Minnesota Statues." *Minnesota Office of the Revisor of Statutes*. Revisor, n.d. Web. 30 Mar. 2013. https://www.revisor.mn.gov/statutes/?id=16A.81&year=2012&keyword_type=exact&keyword=certificates+of+participation.
314. "2012 Minnesota Statutes." [website]. *Minnesota Office of the Revisor of Statutes*. Revisor, n.d. Web. 30 Mar. 2013. https://www.revisor.mn.gov/statutes/?id=16A.85&year=2012&keyword_type=exact&keyword=certificates+of+participation.
315. Author Unknown. (2003). "CityCenter Englewood Project Information." Document provided by Harold Stitt, via email, 13 Feb. 13. p. 1.
316. *Ibid*. p. 2.
317. "FAQ- Civic Center and CityCenter Englewood." *City of Englewood*. City of Englewood, 2012. Web. 20 Feb. 2013. http://www.ci.englewood.co.us/Index.aspx?page=717
318. Author Unknown. (2003). "CityCenter Englewood Project Information." Document provided by Harold Stitt, via email, 13 Feb. 13. p. 2.
319. "Comprehensive Annual Financial Report." *City of Englewood*. City of Englewood, n.d. Web. 14 Feb. 2013. http://www.englewoodgov.org/Modules/ShowDocument.aspx?documentid=6862. P. 21.

APPENDIX B: PARKING AND TODs

320. Duncan, Michael. To Park or To Develop: Trade-Off in Rail Transit Passenger

Demand. *Journal of Planning Education and Research* 30 (2), 162-181, 2010.
321. *Ibid.*
322. Marshall, Wesley E., and Norman W. Garrick. "Parking at mixed-use centers in small cities." *Transportation Research Record: Journal of the Transportation Research Board* 1977.-1 (2006): 164-171
323. *Ibid.*
324. Arrington, G. B., and Robert Cervero. "TCRP Report 128: Effects of TOD on Housing, Parking, and Travel." *Transportation Research Board of the National Academies*, Washington, DC 3 (2008).
325. *Ibid.*
326. Martin, Peter C., and William E. Hurrell. "Station Parking and Transit-Oriented Design." *Transportation Research Record: Journal of the Transportation Research Board* 2276.1 (2012): 110-115.
327. *Ibid.*
328. *Ibid.*
329. Shoup, Donald C. *The high cost of free parking*. Planners Press, American Planning Association, 2005.
330. Forinash, Christopher V., et al. "Smart growth alternatives to minimum parking requirements." *Proceedings of 2nd Urban Street Symposium: Uptown, Downtown, or Small Town: Designing Urban Streets That Work*. 2003.
331. Martin, Peter C., and William E. Hurrell. "Station Parking and Transit-Oriented Design." *Transportation Research Record: Journal of the Transportation Research Board* 2276.1 (2012): 110-115.
332. Dentel-Post, Colin. "Less Parking, More Carsharing: Supporting Small-Scale Transit-Oriented Development." (2012).
333. *Ibid.*
334. Shoup, Donald C. *The high cost of free parking*. Planners Press, American Planning Association, 2005.
335. *Ibid.*
336. Marshall, Wesley E., and Norman W. Garrick. "Parking at mixed-use centers in small cities." *Transportation Research Record: Journal of the Transportation Research Board* 1977.-1 (2006): 164-171
337. Cervero, Robert, Arlie Adkins, and Cathleen Sullivan. *Are TODs Over-Parked?*. University of California Transportation Center, University of California, 2009.
338. *Ibid.*
339. Shoup, Donald C. *The high cost of free parking*. Planners Press, American Planning Association, 2005.
340. Marshall, Wesley E., and Norman W. Garrick. "Parking at mixed-use centers in small cities." *Transportation Research Record: Journal of the Transportation Research Board* 1977.-1 (2006): 164-171
341. Dowling Associates, Inc. Final Report for: MacArthur BART Transit Village. "Shared Parking." 2007. 1-52. Print.
342. *Ibid.*
343. Forinash, Christopher V., et al. "Smart growth alternatives to minimum parking requirements." P*roceedings of 2nd Urban Street Symposium: Uptown, Downtown, or Small Town: Designing Urban Streets That Work*. 2003.
344. *Ibid.*
345. *Minnetonka Code of Ordinances, Chapter 3, Section 300.36 Southwest Light Rail*

Transit Overlay District (2011). Print.
346. Shoup, Donald C. "In lieu of required parking." *Journal of Planning Education and Research* 18.4 (1999): 307-320.
347. Shoup, Donald C. *The high cost of free parking*. Planners Press, American Planning Association, 2005.
348. Forinash, Christopher V., et al. "Smart growth alternatives to minimum parking requirements." *Proceedings of 2nd Urban Street Symposium: Uptown, Downtown, or Small Town: Designing Urban Streets That Work*. 2003.
349. *Minnetonka Code of Ordinances, Chapter 3, Section 300.36 Southwest Light Rail Transit Overlay District* (2011). Print.

TOD + MTKA


Resilient
Communities Project