

VISIONING THE SOUTH CEDAR CORRIDOR:

A Form Based Code Study for the Design Lansing Comprehensive Plan



Source: (urban-advantage.com)

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EXECUTIVE SUMMARY

Project Scope

In working with the City of Lansing as a partner in this planning process, the MSU Student Practicum Team first needed to define a project goal statement to build the scope of work around. After meeting with the client, consulting with professors, and further researching the project proposal and study area, the following goal statement was agreed upon by the team:

This project aims to demonstrate the ideals of the pending form-based code (FBC) by showing how this new type of zoning regulation may revitalize existing businesses, and create new business and residential opportunities for a portion of the South Cedar Corridor.

The study will illustrate how the principles of the Design Lansing Comprehensive Plan may be applied to the study area to accomplish the plan's established goals. For the purposes of this project, study area boundaries were defined as South Cedar Street, between Greenlawn Avenue and Holmes Road. In calculations performed by the team, only the parcels with frontage along the corridor were considered, and not the surrounding residential neighborhoods. However, the surrounding neighborhoods were considered in data depicting the study area's character as these are the areas serviced by the corridor and directly impact the function, but not necessarily the aesthetic.

Background & Methodology

South Cedar Street, also referred to as Business Route (BR) I-96, is a key corridor that provides access to downtown Lansing and connections to regional interstates and highways. The Design Lansing planning process highlighted the need to transform gateway corridors such as S. Cedar into more vibrant, user-friendly thoroughfares that feature greater pedestrian activity and improved design standards.

The practicum team collected and analyzed data regarding the current conditions of the S. Cedar study area. This included studying demographic data and trends, traffic counts and public transportation ridership, commuting patterns, and market trends of the study area to better understand how the corridor is being used. Existing zoning was compared to a land use inventory performed for the area to determine current zoning compliance. A vacancy inventory was also created to better understand the current status and potential for development in the area. A parking inventory was also conducted for parcels within the study area, along with a study to determine activity levels and usage rates of parking spaces within these parcels.

Case studies for Cincinnati, OH, Birmingham, MI, Leesburg, VA, and Grandville, MI were used to determine standard elements of form based code ordinances. These concepts were then applied to a build out analysis and illustrative plan to demonstrate how the study area may change if a form based code were applied. The build out analysis was performed to determine the total usable building square footage that would be available in the study area based on form based code standards of 40% or 80% building coverage, two to three story high developments.

The data calculated in the build out analysis was also applied to tax assessment calculations. This analysis determined potential tax revenue for the city if form based code was implemented in the S. Cedar study area.

Recommendations

The South Cedar corridor plays a vital role in servicing both Lansing residents and the many travelers that utilize it for the linkage it provides to other routes in the city and region. Based upon extensive research, data collection, analysis of existing conditions of the study area, and drafting of an illustrative plan, the practicum team has developed the following short and long-term recommendations that are elaborated upon in the final section of this report beginning on page **88**:

Short-Term:

Public Transit

- Capital Area Transportation Authority (CATA) conducts a ridership study to better ascertain travel patterns and commuter usage of Route 5.

Walkability/Alternative Transportation

- Perform walkability and alternative transportation infrastructure survey to better understand the potential for pedestrian accessibility.
- Initiate discussions with Michigan Department of Transportation (MDOT) to establish framework for form-based code implementation options.

Financing

- In order to tackle vacancy issues contributing to this distress, promote programs that incentivize investment, while preserving any existing form based code features.
- Consider establishing a corridor improvement authority, specifically for the S. Cedar Corridor, comprised of business owners and other local stakeholders.

Long-Term:

Build Out Potential

- *Draft development plan that further analyzes parking coverage along S. Cedar and parcels that should be prioritized for potential infill in the future.*
- *Collaborate with Ingham County Land Bank in securing parcels over time to ensure future development aligns with form based code while preserving existing features.*

Summary

Through the course of the practicum team's research, the South Cedar Corridor has proven its significant value as an integral corridor for the city of Lansing and surrounding region. Design Lansing's proposed designation as an active, inviting "urban mixed-use corridor" provides a hopeful vision for future development along S. Cedar that embraces the importance of this pathway in the City's present and future. However, along with the recommendations detailed above, the practicum teams suggests assessing implementation of form based code in other corridors discussed in Design Lansing before the South Cedar study area. Form based code implementation takes time to develop, particularly in what is essentially a traditionally automobile-based commercial corridor. Such efforts must start small, with programs and outreach that highlight development opportunities in the area while providing resources for financial incentives and technical support to property and business owners. These efforts must first take shape to help establish a common vision for the corridor, so that groundwork may be laid for form based code development that could one day transform S. Cedar to a revitalized activity corridor.

INTRODUCTION

Planning Practicum

For their final semester, students in the Urban and Regional Planning Program at Michigan State University's School of Planning, Design, and Construction enroll in a planning practicum that serves as a capstone course to their academic career. Practicum provides opportunities for small groups of students (both undergraduate and graduate) and professional clients to collaborate on real-world projects. Background research, field work, and classroom forums are conducted through the semester to build towards a final report and community presentation discussing the group's findings. This level of experiential learning strengthens the students' teamwork and communication skills, while enabling them to apply the knowledge they've accrued in the classroom to create a project with tangible impacts for the community.

Project Client

The lead client for this project, who acted as a primary contact and resource for the Practicum Team, was Bill Rieske, Assistant Planning Director for the City of Lansing. Mr. Rieske has worked with MSU on various practicum projects, and has overseen the work of multiple planning students as they focused on their final semesters in the program. He has served in his role for the City since 1995, and works closely with the Zoning Administrator, Susan Stachowiak, along with Bob Johnson, Planning & Neighborhood Development Director.

Design Lansing Comprehensive Plan

The Design Lansing Comprehensive Plan was adopted April 9, 2012, and focuses on land use, development, and infrastructure issues. An integration of form-based code (FBC) and placemaking principles into the city's zoning ordinance is also emphasized in the plan. The process for creating the Design Lansing Comprehensive Plan began in January 2009, when staff from the City of Lansing Department of Planning and Neighborhood Development partnered with planning consultants to begin a community engagement process. Designed to raise awareness and gain insight into community perceptions and priorities, this process utilized various interviews, surveys, public hearings, and workshops to reach out to local residents. These events provided opportunities for residents, business-owners, and other local stakeholders to come together and share in a common vision while bringing their diverse backgrounds and experience to the table. The recent Michigan/Grand River Avenue Design Charrettes held in May and October of 2013 provide examples of such community participation (*Figure 1.1*).





Figure 1.1- Community visioning session at the Allen Market Place, October 2013

(Source: Tri-County Regional Planning Commission, 2014)

Through such a planning process, prevalent concerns and demands of the public come to the forefront. One recurring issue expressed by residents in the Design Lansing workshops involved a desire to see the vacant strip-commercial buildings of various gateway corridors throughout the City transformed into more active, pedestrian-friendly thoroughfares (*see Appendix A*). Recent planning initiatives in the region have attempted to elaborate upon this concern through further visioning sessions for these corridors and focus areas. The Michigan/Grand River Avenue Design Charrettes, hosted by the Tri-County Regional Planning Commission, coordinated public input from residents of municipalities all along the corridor, from downtown Lansing all the way to Webberville. These sessions were used to craft a future land-use vision for the corridor and prospective images of long-term growth and development along this key regional pathway (TCRPC, 2014) (*Figure 1.2*).



(Source: Tri-County Regional Planning Commission, 2014)

Figure 1.2- Conceptual designs from the Michigan/Grand River Avenue Design Charrettes

Design Lansing prioritizes the transformation of these corridors into more complete streets featuring urban and neighborhood scale connectors and cores. ‘Connectors’ represent the street segments that link to the mixed-use centers (‘cores’) along these designated activity corridors. Mixed-use development typically entails reserving lower level for commercial spaces while filling the floors above with residential or office units. Lansing’s own Stadium District (*Figure 1.3*) provides a recent example of such development, with three floors of condominiums and rental apartments situated above ground level businesses such as Biggby Coffee and Fifth Third Bank. The scale and level of residential or commercial development within these cores and connectors may vary depending on the existing demographics and demands along each corridor.



Figure 1.3- Lansing’s Stadium District on Michigan Avenue

(Source: Mlive.com)

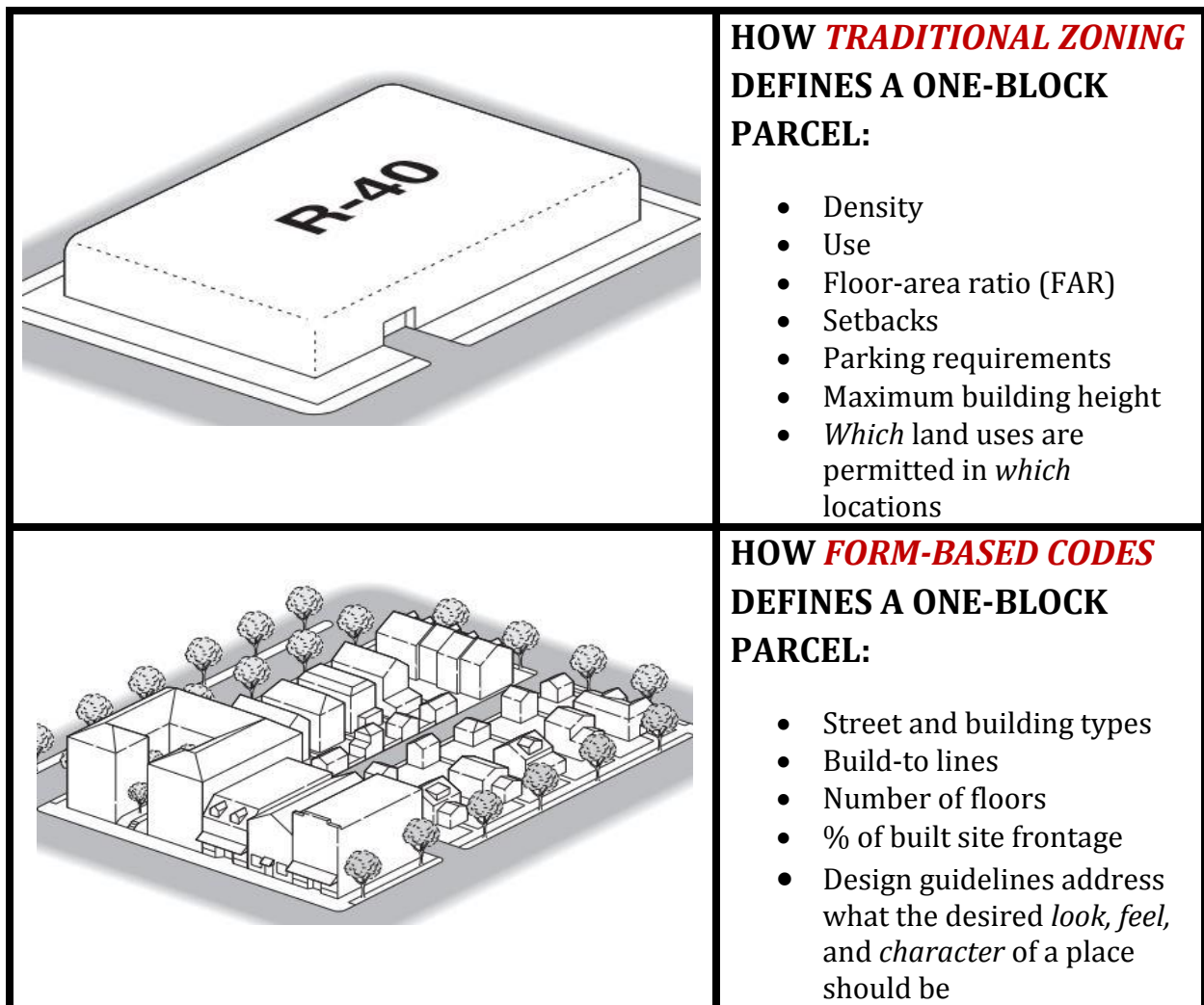
The City has begun drafting preliminary form-based codes for target areas in Design Lansing that are classified in their future land use map (*see Appendix D*). The MSU Student Practicum Team aims to assist the City in further researching land use categories involving “cores” and “connectors”, the next focus of their form-based code development, to gain a better understanding of its application to a designated corridor, in this case South Cedar Street.

What is Form Based Code?

The City of Lansing has turned to Smith Group JJR and LSL Planning to draft a form-based code. Smith Group JJR and LSL Planning are consultant firms that specialize in custom community planning, both with past experience with form-based code. These consultant firms, and many others, turn to the Form Based Codes Institute (FBCI) to define the practice of form-based code. FBCI is a non-profit organization that develops standards for form-based codes and provides courses, webinars, and workshops to educate planners, city officials, and community members about form-based codes. The following is an excerpt from FBCI used to define form-based code:

“Form-based codes foster predictable built results and a high-quality public realm by using physical form (rather than a separation of uses) as the organizing principle for the code. They are regulations, not mere guidelines, adopted into city or county law” (*Formbasedcodes.org*).

An important distinction to make is that between form-based code and conventional planning practices, namely, Euclidean zoning. Euclidean zoning typically calls for complete separation of land uses. Alternatively, form-based code encourages dense landscapes with mixed-use buildings, pedestrian-oriented roadways and sidewalks, and an inclination to preserve the integrity of the built and natural environment. *Figure 1.4* charts a basic comparison of these two methods and the components involved.



(Source: Formbasedcodes.org)

Figure 1.4- Comparison of traditional zoning practices with form based codes

Despite the differences between the two practices, it is not uncommon for a zoning ordinance to primarily reflect Euclidean, or conventional practices, while calling for certain districts to follow a form-based code. This can be done by implementing overlays or hybrid codes. These are possible implementation strategies for the City of Lansing and the South Cedar Corridor, and later explored in this report's case studies.

Form-based code has the ability to facilitate gradual large-scale change in building character and design at the corridor level. The Design Lansing plan sees form-based code as a tool for preserving existing assets in some areas of the city while effecting transformative change in other areas. The South Cedar Corridor is one such area the Plan targets for transformative change. As a designated 'activity corridor', Design Lansing aims to revitalize South Cedar Street into a more vibrant, inviting corridor featuring networks of active cores and connectors.

PROFILE OF SOUTH CEDAR STUDY AREA

Introduction

Lansing resides in the Tri-County Region of Ingham, Eaton, and Clinton counties in central Michigan and serves as the state capital. Despite the trends in recent decades of depleting populations and diminished urban cores across the state, Lansing has maintained a relatively stable population in recent decades. The presence of state, county, and local government offices, along with established institutions such as Sparrow Hospital, Lansing Community College, and nearby Michigan State University, all play a role in sustaining a viable economic base for the region. *Figure 2.1* illustrates the location of Lansing and the South Cedar study area in a statewide context, with a more detailed view of study area boundaries along S. Cedar in *Figure 2.2*. The client defined study area boundaries as Greenlawn Avenue to the north and Holmes Road to the south.

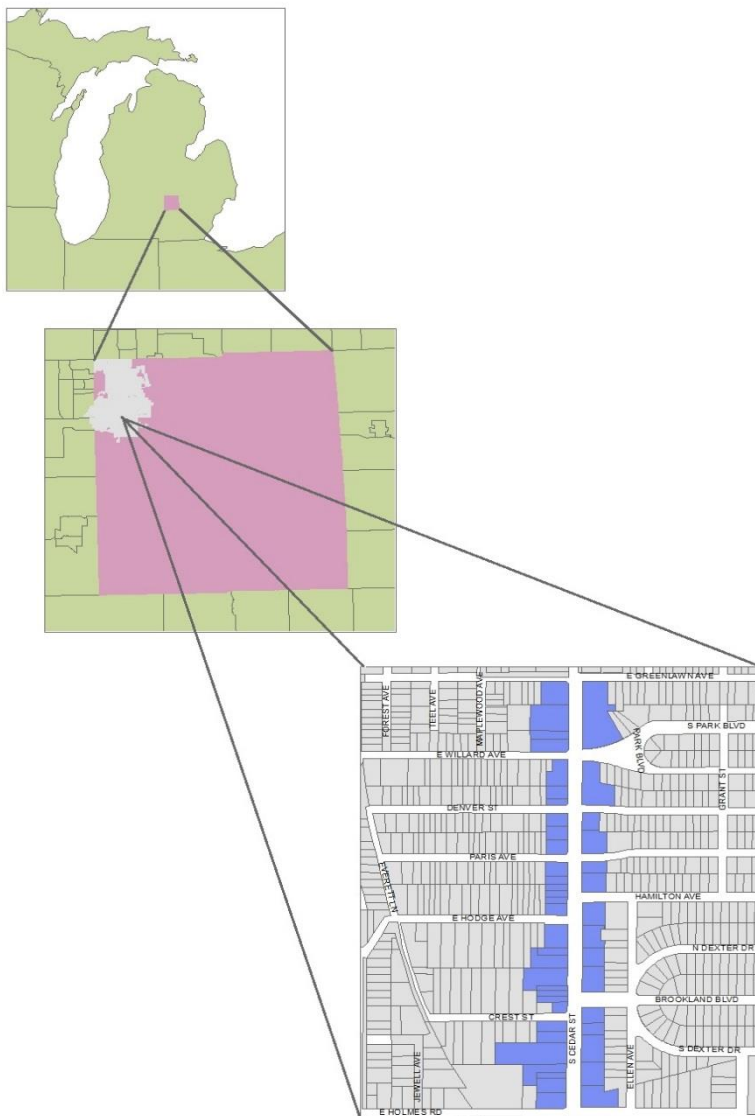
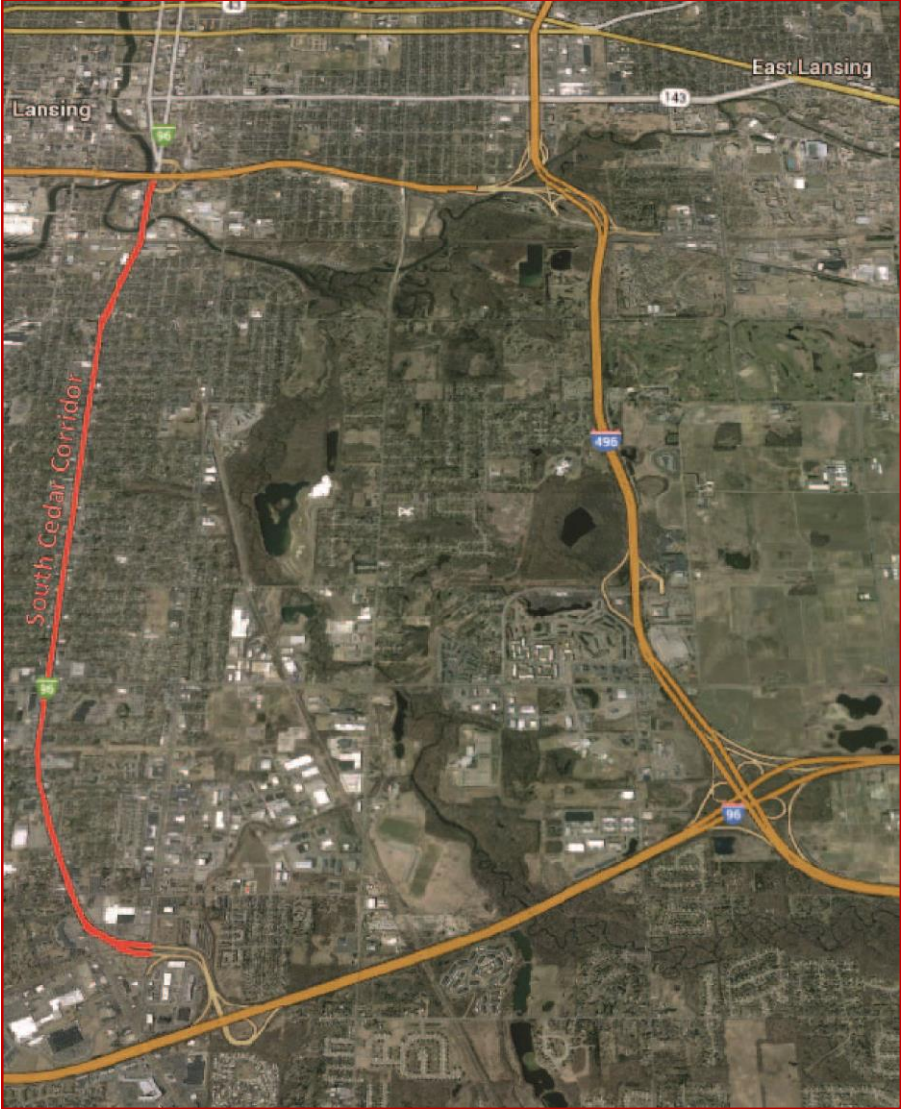


Figure 2.1- S. Cedar study area in relation to city, county, and state boundaries



Figure 2.2- Close-up of S. Cedar study area boundaries of Greenlawn Avenue and Holmes Road

This section further explores various physical and social characteristics of the S. Cedar study area to gain a better understanding of how form based codes may be applied to the proposed cores and connectors along this portion of the corridor. S. Cedar serves as a key corridor in South Lansing that connects its users to the urban core of downtown. As a Michigan Department of Transportation (MDOT) state trunk line, S. Cedar also provides linkage to both Interstate 496 and Interstate 96 (Figure 2.3). In this sense, S. Cedar serves as a high-usage thoroughfare of significant importance to residents and visitors traveling through Lansing.



(Source: Google maps)

Figure 2.3- South Cedar Corridor in relation to the regional interstate system

The current character of the S. Cedar study area is typified by medium to large commercial parcels, many featuring prevalent setbacks and large amounts of square footage devoted to parking (*Figure 2.4*). Numerous auto-oriented businesses such as dealerships, parts and supply stores, and a car wash align this portion of S. Cedar (*Figure 2.5*). Currently defined in Design Lansing as a business corridor, the S. Cedar study area also features key businesses Rite-Aid Pharmacy and Quality Dairy at northern boundary Greenlawn Avenue (*Figure 2.6*). Music Manor, a local business serving the community for over twenty-five years, resides at the study area’s southern boundary of Holmes Road (*Figure 2.7*).



Figure 2.4- Large setbacks and parking space



Figure 2.5- Sales floor of car dealership along S. Cedar



Figure 2.6- Quality Dairy and Rite-Aid at S. Cedar and Greenlawn Ave.



Figure 2.7- Music Manor at S. Cedar and Holmes Rd.

(Photos: J. Cox)

Demographic Profile

This section summarizes the current characteristics of the S. Cedar study area. Despite being beyond the boundaries of the study area defined in the scope of work, for the purpose of the data collection in this profile, the study area is defined as 2010 Ingham County Census tract 26. To gain a full perspective of the area, data collected about the study area (tract 26) has been compared to that collected about the City of Lansing, as well as the surrounding area (*Figure 2.8*). The surrounding area is being defined as 2010 Ingham County Census tracts 20, 23, 26, 27, and 28. The study area tract has been included in the surrounding area to better understand the complete area serviced by the corridor. The data used in this report for the year 2000 and 2010 was obtained from the United States Census Bureau and Economic Social Research Institute (ESRI) Online Business Analyst. Data for 2012 was collected from the 2012 American Community Survey and ESRI.

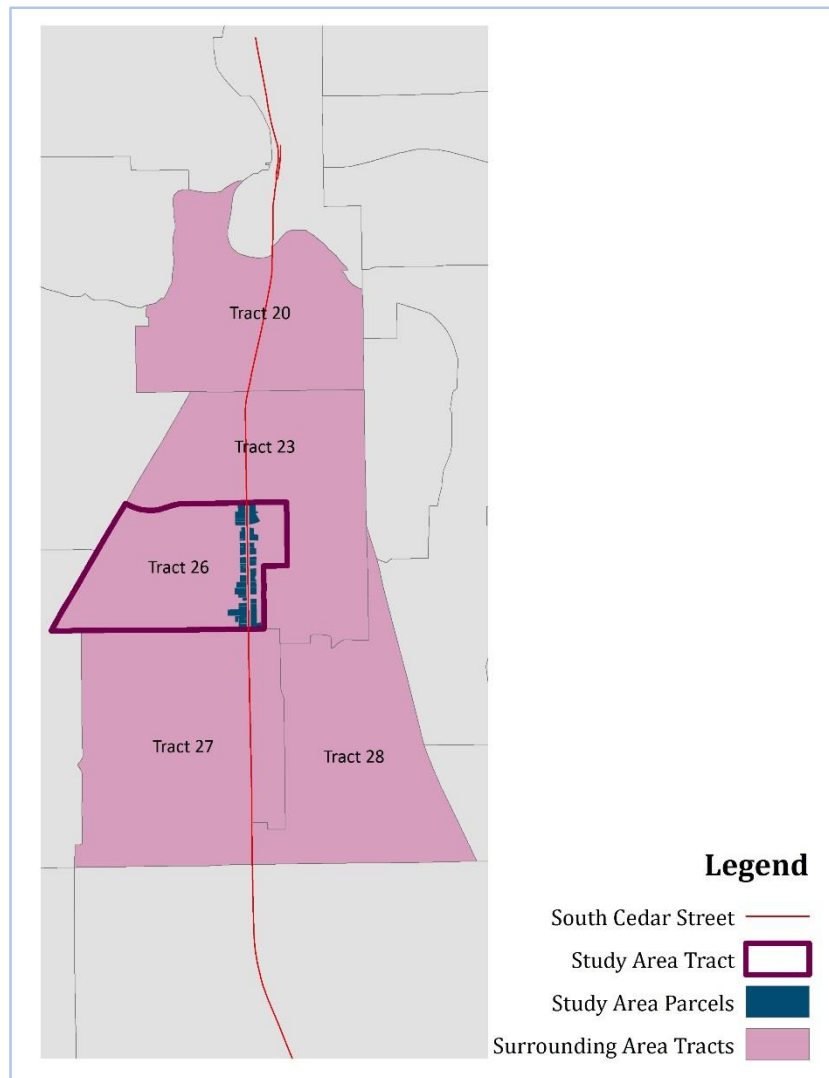


Figure 2.8- Census tracts and groupings used for the study area profile

From 2000¹ to 2010 the populations in the S. Cedar study area, the surrounding area, and Lansing all decreased (*Table 2.1*). The S. Cedar study area experienced a decrease in population slightly greater than that of the City, but slightly less than the surrounding area.

Table 2.1--Population, 2000-2010			
	2000	2010	Change
S. Cedar, Tract 26	1,974	1,889	-4.30%
Surrounding Area	15,023	14,158	-5.76%
City of Lansing	118,570	114,297	-3.60%

Source: ESRI Business Analyst Online, 2010 Census

The age distributions throughout the comparable areas remained fairly consistent from 2000 to 2010 (*Table 2.2*). Each area was also consistent in experiencing large decreases in the percentage of the population grouped as Children (0-19) and Senior (65-85+). The only population grouping to experience consistent increases within the compared areas was Adult (35-64). Tract 26 experienced a sharper decline in the Young Adult (20-34) population than the surrounding area and city as a whole.

Table 2.2--Population by Age, 2000-2010									
	S. Cedar, Tract 26			Surrounding Area			City of Lansing		
	2000	2010	% change	2000	2010	% change	2000	2010	% change
Children (0-19)	531	462	-12.99%	4,216	3,781	-10.32%	35,035	30,906	-11.79%
Young Adult (20-34)	550	471	-14.36%	3,842	3,533	-8.04%	31,423	31,031	-1.25%
Adult (35-64)	754	756	0.27%	5,418	5,449	0.57%	41,065	41,315	0.61%
Senior (65-85+)	246	209	-15.04%	1,654	1,395	-15.66%	11,605	11,045	-4.83%
TOTAL	2,081	1,898		15,130	14,158		118,570	114,297	

Source: ESRI Business Analyst Online, 2010 Census

¹ The spatial area represented by 2000, 2010, and 2012 data in this section may vary, which may have resulted in skewed comparisons in some datasets.

The racial distribution of the City of Lansing is slightly more diverse than that of the study area and the surrounding area (*Table 2.3*). Tract 26, along with the surrounding area is predominantly white, while the city features a greater distribution of Black, Asian, and Other Races. All three compared areas experienced an increase in Asian population, as well as the population identifying as two or more races. These were the only groups to experience positive growth across the study area, surrounding area, and city as a whole.

Table 2.3--Population by Race, 2000-2012									
	S. Cedar, Tract 26			Surrounding Area			City of Lansing		
	2000	2012	% change	2000	2012	% change	2000	2012	% change
White	1,683	1,515	-11.09%	11,882	10,636	-11.72%	75,984	68,802	-10.44%
Black	173	105	-64.76%	1,761	2,208	20.24	23,647	23,372	-1.18%
Asian	14	38	63.16%	151	282	46.45	3,235	4,767	32.14%
Other Race	103	54	-90.74%	572	416	-37.5%	5,206	3,842	-35.50%
Two or More Races	89	122	27.05%	642	1,217	47.25%	5,276	8,210	35.74%

Source: 2000 US Census, SF3 file; 2012 American Community Survey

In 2000, the median household income for the study area was the lowest of the three areas being compared (*Table 2.4*). However, over the next twelve years, median household income in the area increased almost six-thousand dollars, giving the study area the largest median household income of the areas being compared in 2012.

Table 2.4--Median Household Income, 2000-2012								
S. Cedar, Tract 26			Surrounding Area			City of Lansing		
2000	2012	% change	2000	2012	% change	2000	2012	% change
\$32,880	\$38,766	15.19%	\$36,039	\$35,083	-2.7%	\$34,833	\$37,128	6.1%

Source: 2000 US Census, SF3 file; 2012 American Community Survey

Unemployment has experienced stark increases across the board, and aligns with common statewide trends over the past decade (*Table 2.5*). The most recent unemployment numbers for the city and the tract 26 study area are almost identical, yet figures for the surrounding tracts are much higher. Despite the increased unemployment, median household incomes have increased over the same period (*Table 2.4*), so while fewer people in the study area are employed they are earning more on average.

Table 2.5--Unemployment Trends, 2000-2012		
	2000	2012
S. Cedar, Tract 26	1.6%	9.5%
Surrounding Area	3.3%	14.6%
City of Lansing	4.4%	9.4%

Source: 2000 US Census, SF3 file; 2012 American Community Survey

Table 2.6 illustrates the housing characteristics of the study area in relation to the City and surrounding area. Details on occupancy, home ownership, and rental trends help describe current residential trends in and around the study area. Despite an increase in residential vacancy in all cases, the median value of owner occupied units has also risen. These characteristics are generally inversely correlated, however the increase in owner occupied unit values is likely due to the continued rebound from the recession.

Table 2.6--Housing Characteristics, 2000-2012									
	S. Cedar, Tract 26			Surrounding Area			City of Lansing		
	2000	2012	% change	2000	2012	% change	2000	2012	% change
<i>Total Housing Units</i>	1,024	971	-5.1%	6,955	6,781	-2.1%	53,159	53,708	10.2%
<i>Occupied</i>	961	868	-10.7%	6,469	5,984	-7.6%	49,505	47,924	-3.2%
<i>Owner Occupied</i>	637	536	-18.8%	4,026	3,898	-0.8%	28,488	24,931	-14.2%
<i>Renter Occupied</i>	324	332	2.4%	1,943	2,086	7.6%	21,017	22,993	8.5%
<i>Vacant</i>	63	103	38.8%	486	797	39.0%	3,654	5,784	36.8%
<i>Median Value of Owner Occupied Housing Units</i>	\$64,022	\$71,644	10.6%	\$68,355	\$73,861	7.2%	\$73,026	\$78,454	6.9%

Source: 2000 US Census, SF3 file; 2012 American Community Survey

Transportation

Data was collected about the existing transit activity along the South Cedar Corridor to better understand potential benefits and detriments to future development. Research focused on existing traffic patterns, public transportation services, commuter levels, and existing infrastructure as it pertains to application of form based code design standards.

Traffic

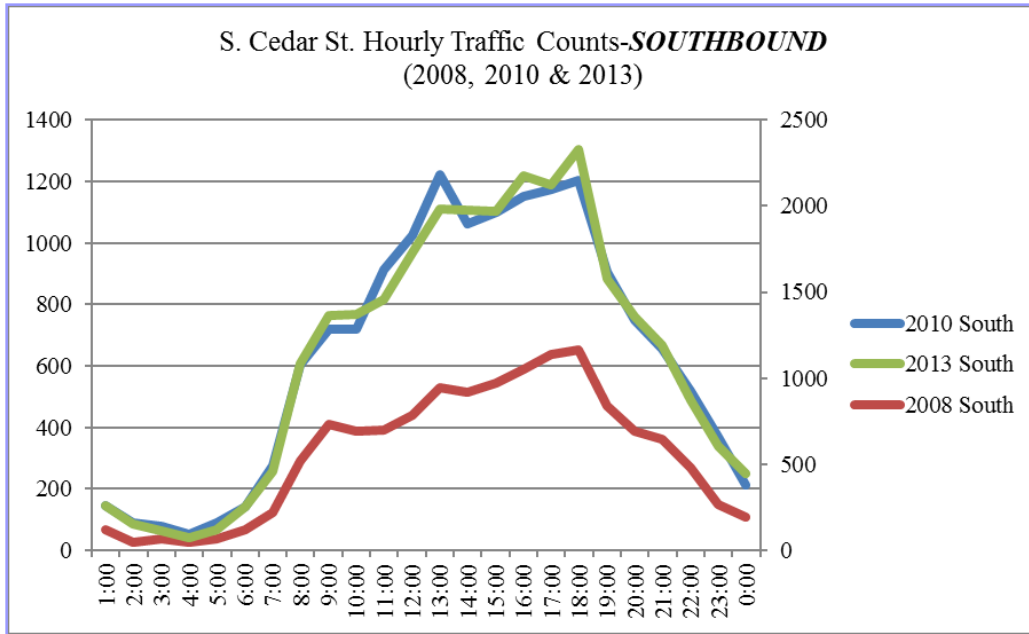
As a designated state trunk line, S. Cedar, also referred to as I-96 Business Route (BR), is maintained by the Michigan Department of Transportation (MDOT). When the interstate system began spreading across Michigan during the 1950s-70s, business routes such as S. Cedar were built to provide motorists direct access to the commercial cores or central business districts of a city. In this sense Interstate 96 acts as the “parent” road of S. Cedar, which provides traffic a connection to downtown Lansing.

S. Cedar is a five-lane road, featuring two lanes running in each direction (north and south), with a shared turn lane in the center (*Figure 2.9*). The posted speed limit along the S. Cedar and within the study area is 45 miles per hour. As a business route for I-96, S. Cedar is under the jurisdiction of MDOT, who is therefore responsible for road maintenance and repair. As noted in Design Lansing, MDOT’s ownership of South Cedar plays a key role in potential road improvements and must be factored in to the City’s development plans.



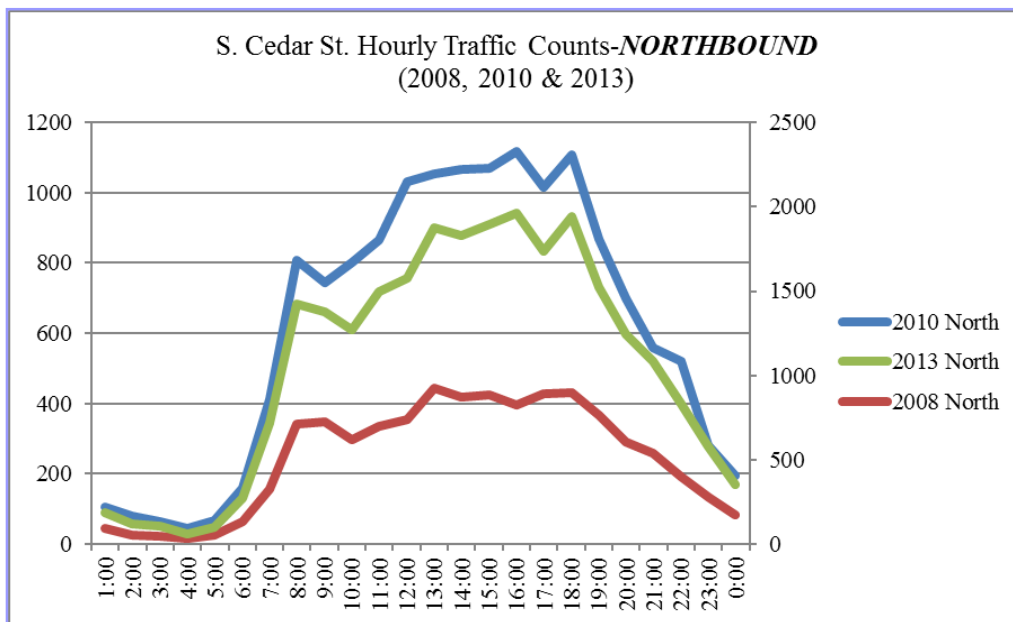
Figure 2.9- S. Cedar street layout

MDOT maintains traffic count data for their state trunk lines including S. Cedar. Traffic volume indicates the number of motorists utilizing the trunk line within a given period, and can help identify the recurring trends in heavy traffic flow. *Figures 2.10 & 2.11* below represent an area of S. Cedar from Jolly Road, (south of the study area’s southern boundary of Holmes Road), to Mount Hope Road, (north of the study area’s northern boundary of Greenlawn Avenue).



(Source: MDOT-TMIS)

Figure 2.10- Comparison of 2008, 2010, & 2013 southbound traffic counts for S. Cedar



(Source: MDOT-TMIS)

Figure 2.11- Comparison of 2008, 2010, & 2013 northbound traffic counts for S. Cedar

The traffic data for 2008 and 2010 represents a 48-hour period, starting at 9:00 AM on the first day of observation and ending at 8:00 AM on the third day of observation. In 2013, data was collected from July 8th 11:00 AM to July 10th 11:00 AM. Southern traffic flow in 2013 appears similar if not greater than the data for 2010, yet northern traffic flow in 2013 appears to have declined since 2010. Traffic data along S. Cedar for 2008 indicates a much lower volume of traffic flow through the corridor than the more recent years. This data was collected from the MDOT's Traffic Monitoring Information System (TMIS) search system.

The overall trends are similar among the three years, with each study having high levels of activity from 7:00 AM to 7:00 PM. These trends reflect high usage of the corridor during hours of commercial operation, reflecting the streets status as a business corridor. Traffic seems to peak between 5:00 PM and 7:00 PM, also representing the use of the corridor for commuting.

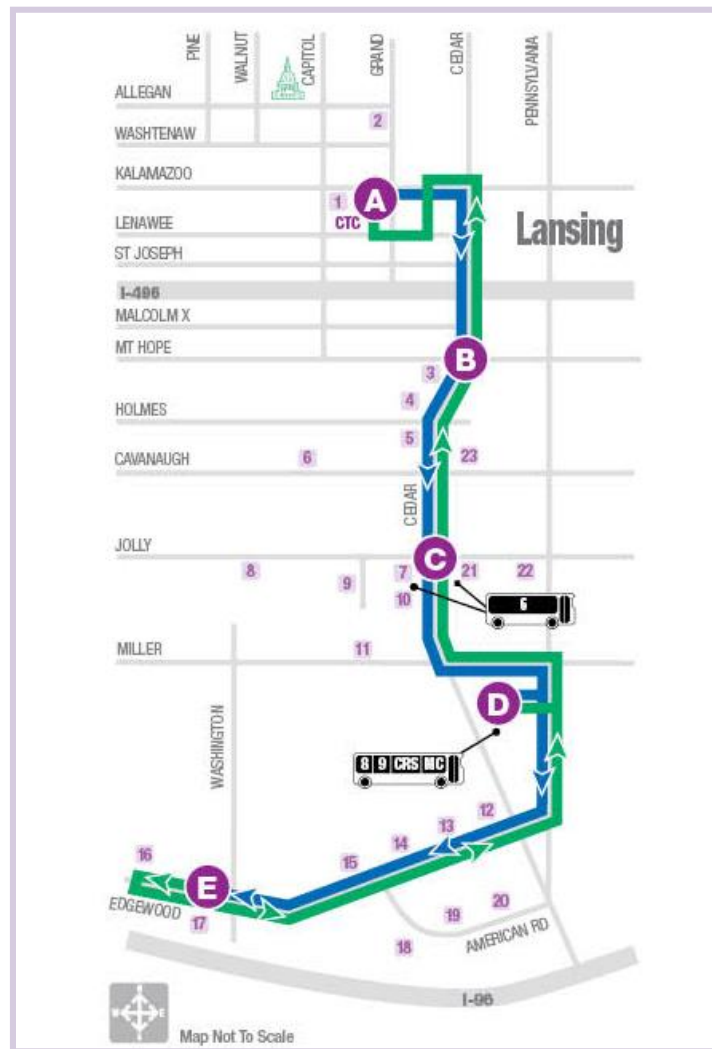
Table 2.7 details the average annual daily traffic counts along S. Cedar for the past five years, showing a stable and continuously growing amount of motorists traveling the corridor. Such high usage further illustrate the significance of the S. Cedar as a key thoroughfare that provides access to multiple connecting routes.

Table 2.7--Average Daily Traffic Count South Cedar (Jolly to Mt. Hope), 2008-2012		
YEAR	AADT	% Change
2008	21,588	--
2009	21,243	-1.6%
2010	24,962	14.9%
2011	25,212	0.9%
2012	25,414	0.7%

Source: Capital Area Transportation Authority

Public Transit

One of the key resources on the South Cedar Corridor is access to the Capital Area Transportation Authority (CATA) bus system. Route 5 runs north and south along S. Cedar, connecting residents with downtown and various interstates and highways (Figure 2.12). Within the study area there are three southbound stops along the west side of the street, and four northbound stops along the east side (Figure 2.13). A bus stops at each of these locations approximately every fifteen minutes during the week between 5:30 AM and 5:00 PM, then every half hour until 10:20 PM. Bus service on the weekends is less frequent than weekdays (Cata.org).



(Source: Cata.org)

Figure 2.12- Map of CATA Route 5



Figure 2.13- CATA bus stops in S. Cedar study area

Starting in the 2009 fiscal year², route 5 carried 588,618 riders. Route 5 ridership has consistently increased over the past five years, and carried a total of 731,208 riders for the period of October 2012 through September 30, 2013 (Table 2.8, Figure 2.14).

Table 2.8--CATA Route 5 Ridership, 2009-2013		
Fiscal Year	Riders	% Change
2009	588,618	
2010	612,757	4.1%
2011	654,100	6.7%
2012	713,580	9.1%
2013	731,208	2.5%

Source: Capital Area Transportation Authority

² Fiscal years run from the beginning of October through the end of September the following year.

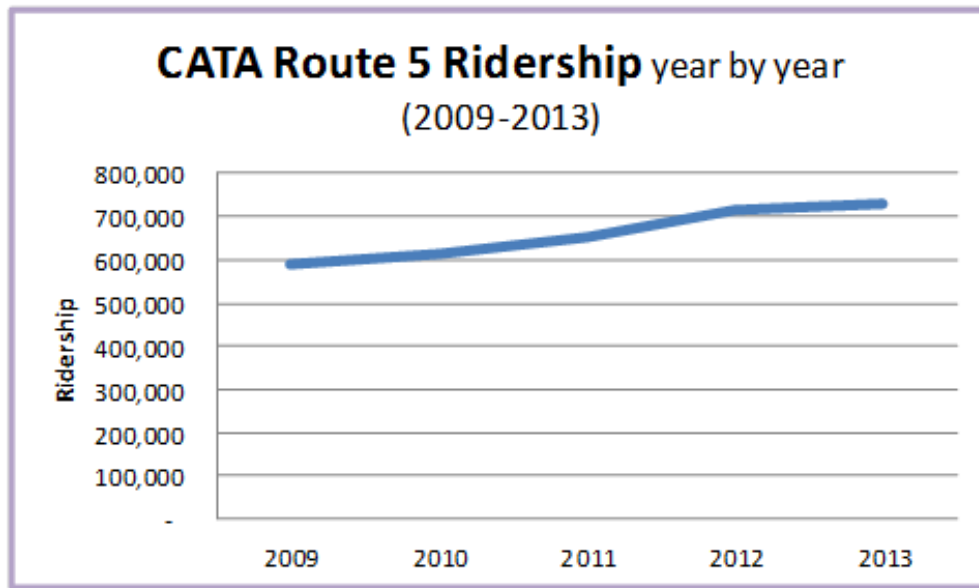


Figure 2.14- Trends in annual route 5 ridership

Other CATA bus routes near the study area that provide linkage to downtown and key commercial areas were similarly examined to help highlight the importance of route 5. Key routes compared include route 7 along Aurelius Road, route 8 servicing Pennsylvania Avenue, and route 9 that runs from downtown Lansing, south along Martin Luther King Boulevard. As discussed above, ridership on route 5 consistently increased in the five-year timespan of 2009-2013. Routes 7, 8, and 9 generally follow this pattern from 2009-2012, each of these routes experienced a sharp decline in ridership for 2013, unlike route 5, which continued to add to its ridership total from the previous year. These ridership totals, detailed in *Table 2.9* illustrate the significance of route 5 as a key public transportation route, while also showing the high usage rates along S. Cedar in comparison to the streets of other routes (see *Appendix B* for map of CATA bus routes compared).

Table 2.9--CATA Ridership Comparison, 2009-2013				
Fiscal Year	Route 5	Route 7	Route 8	Route 9
2009	588,618	59,393	435,278	500,662
2010	612,757	52,936	456,222	488,202
2011	654,100	60,875	472,142	491,056
2012	713,580	69,102	503,351	532,937
2013	731,208	61,530	497,804	516,737

Source: Capital Area Transportation Authority

Commuting

Traffic patterns also indicate the commuter level of a particular corridor and how it meets the demand of drivers traveling to and from their place of work. Drivers traveling alone in their vehicle accounted for over 80% of this total, reflecting the high usage of this corridor by individuals traveling to their daily occupations. This data also illustrates the minimal use of public transportation within this segment for commuting purposes by residents in the study area.

The most used commuting method of workers over 16 in our study area in both 2000 and 2012 is car, truck, or van driven alone. Despite a general increase in route 5 ridership (*Table 2.8*), 2012 commuting data shows that workers in the study area no longer use public transportation as a way to get to work (*Table 2.10*). The surrounding areas use of public transportation for commuting stayed stable, while the City as a whole increased by 50%. The distances commuted to work have increased, creating a longer travel time, perhaps making public transportation a less viable commuting method.

Table 2.10--Commute Method, 2000-2012									
	Study Area			Surrounding Area			City of Lansing		
	2000	2012	% change	2000	2012	% change	2000	2012	% change
Workers 16 years and over	1,137	853	-24.98%	7,568	6,709	-11.25%	56,449	50,509	-10.52%
Car, truck, or van-drove alone	971	692	-28.73%	6,095	5,152	-15.47%	44,405	39,482	-11.09%
Car, truck, or van-carpooled	85	87	2.35%	817	872	6.73%	7,258	5,174	-28.71%
Public transportation (excluding taxi)	24	0	-100%	281	277	-1.42%	1,536	2,311	50.46%
Walked	22	5	77.27%	184	116	-36.96%	1,380	1,312	-4.93%
Other means	0	8	800%	38	102	168.42%	449	998	122.27%
Worked at home	35	61	74.29%	153	190	24.18%	1,420	1,232	-13.24%

Sources: ESRI Business Analyst, 2000 US Census SF3 Files, 2012 American Community Survey 5-year Estimate

Overall, the distance travelled to work in all three areas has increased (*Table 2.11*). In the study area in 2000, 87% of workers over the age of 16 traveled under 24 minutes to their place of work, in 2012 this changed to only 63%. This decrease is accounted for by the 145% increase in workers traveling 24 to 44 minutes to their work from 2000 to 2012 in the study area. The surrounding area and city of Lansing have both experienced declines in almost all distance travelled categories.

Table 2.11--Distance Traveled to Work, 2000-2012									
	Study Area			Surrounding Area			City of Lansing		
	2000	2012	% change	2000	2012	% change	2000	2012	% change
Total Workers 16 and Over	1,137	836	-26.47%	7,568	6,709	-11.35%	56,449	50,509	-10.52%
Working at Home	35	33	-5.71%	153	190	24.18%	1,420	1,232	-13.24%
Less than 10 minutes	152	117	-23.03%	1,223	1,134	-7.28%	8,895	7,418	-16.60%
10 to 24 minutes	797	530	-33.50%	4,858	4,159	-14.39%	35,169	32,389	-7.90%
25 to 44 minutes	55	135	145.45%	778	724	-6.94%	6,590	5,515	-16.31%
45 to 59 minutes	41	16	-60.98%	247	267	8.10%	1,596	1,476	-7.52%
60 or more minutes	57	5	-91.23%	309	235	-23.95%	2,779	2,479	-10.80%

Sources: ESRI Business Analyst, 2000 US Census SF3 Files, 2012 American Community Survey 5-year Estimate

Alternative Transportation

While S. Cedar features access to public transit, it is less equipped to meet the needs of bikers or pedestrians travelling on the corridor. Sidewalks are provided along both sides of S. Cedar within the study area. However, there are only two crosswalks located in our study area, both of which have streetlights. One at the intersection of S. Cedar and Greenlawn Avenue and the other at the intersection of S. Cedar and Holmes Road (Figure 2.15), which places the two crosswalks with lights .5 miles apart.



Figure 2.15- Crosswalk at intersection of S. Cedar and Holmes Rd.



Without a light at an intersection, it is very difficult for a pedestrian or biker to cross the five-lane road, and the current distance between crosswalks with lights makes walking or biking in the corridor very inconvenient. Figure 2.16 details the crosswalk locations within the study area, with one present on the north and south end of the study area boundaries.

Figure 2.16- Crosswalk locations at northern and southern boundaries of S. Cedar study area

The sidewalks on the east and west sides of S. Cedar are generally in reasonable repair, with few cracks and gaps (*Figure 2.17*). Pedestrian accessibility may benefit from the widening of sidewalks, as well as the removal of unnecessary parking lot and driveway entrances. Some businesses are vacant or have underused accessed points which could be removed to improve ease of pedestrian mobility throughout the area.



Figure 2.17- Northbound sidewalk between Paris Ave. and Denver St.

Existing Zoning & Land Use

Based on the existing City of Lansing zoning ordinance, enacted on August 12, 2013, the S. Cedar study area is zoned mainly as, “F” Commercial District (*Figure 2.18*). In addition to the commercial district, which allows conventional retail uses, wholesale and local shopping districts also allow for retail uses. This zoning ordinance also allows for both single-family (“A”) and multi-family (“DM-4”) residential districts (*Table 2.12*). Accessory residential uses are also allowed in the commercial district by special condition.



Figure 2.18- Existing zoning of S. Cedar study area parcels

Table 2.12--Zoning Definitions for Study Area

<p align="center">“A” Single-Family Residential District</p>	<p><i>Permitted Uses:</i> Single-family detached dwellings with minimum lot size of 6,000 square feet.</p> <p><i>Use by Special Condition:</i> Group day care, schools, golf courses.</p> <p><i>Use by Special Land Use Permit:</i> Churches, cemeteries, nurseries, child care facilities.</p>				
<p align="center">“DM-4” Multi-Family Residential District</p>	<p>The intent of the "DM-4" Residential District is to permit the construction or conversion of structures for high-rise dwellings, which may be developed at a net density to 87.1 dwelling units per acre.</p> <p><i>Permitted Uses:</i> High density multiple dwellings with minimum lot area per unit:</p> <table border="0" data-bbox="394 604 1127 663"> <tr> <td>efficiency - 500 sq. ft.</td> <td>1 bedroom - 700 sq. ft.</td> </tr> <tr> <td>2 bedroom - 950 sq. ft.</td> <td>3+ bedroom - 1,400 sq. ft.</td> </tr> </table> <p><i>Use by Special Condition and Special Land Use Permit:</i> The same as above, also mobile home parks permitted by special land use permit.</p>	efficiency - 500 sq. ft.	1 bedroom - 700 sq. ft.	2 bedroom - 950 sq. ft.	3+ bedroom - 1,400 sq. ft.
efficiency - 500 sq. ft.	1 bedroom - 700 sq. ft.				
2 bedroom - 950 sq. ft.	3+ bedroom - 1,400 sq. ft.				
<p align="center">“E-2” Local Shopping District</p>	<p>The intent of the "E-2" Local Shopping District is to provide convenience retail stores.</p> <p><i>Permitted Uses:</i> Convenience retail (ie., post office, bar, restaurant, hardware, laundromat, gas station.)</p> <p><i>Use by Special Condition and Special Land Use Permit:</i> The same as "D-1" District except residential uses not permitted.</p>				
<p align="center">“F” Commercial District</p>	<p>The intent of the "F" and "F-1" Commercial Districts is to allow general retail commercial uses.</p> <p><i>Permitted Uses:</i> General retail uses (ie., comparison retail, theater, hotel) as well as convenience retail and office uses.</p> <p><i>Use by Special Condition:</i> Accessory residential uses at "DM-3" density, hospital, clinic, animal hospital, kennel, vehicle sales.</p> <p><i>Use by Special Land Use Permit:</i> Similar to "D-1" District.</p>				
<p align="center">“G-2” Wholesale District</p>	<p>The intent of the "G-2" Wholesale District is to permit the wholesale and warehousing of products, and to permit the packaging, assembly or treatment of products within an enclosed structure.</p> <p><i>Permitted Uses:</i> Wholesome and warehouse activities within an enclosed structure, as well as general retail and public garages.</p> <p><i>Use by Special Condition and Special Land Use Permit:</i> The same as "D-1" Office District, except residential uses are not permitted.</p> <p>First district which permits heavy auto repair uses.</p>				
<p align="center">“J” Parking District</p>	<p>The intent of the "J" Parking District is to permit the establishment of areas to be used solely for the off-street parking of private passenger vehicles as a use incidental to a principal use.</p> <p><i>Permitted Uses:</i> Off-street parking areas for private passenger vehicles.</p> <p><i>Use by Special Condition:</i> Attendant building.</p> <p><i>Use by Special Land Use Permit:</i> Commercial uses in first floors of parking structures and vehicle sales. Residential uses not permitted.</p>				

To understand how the zoning related to the existing land uses, the practicum team completed a land use inventory of the study area in February 2014. For the purposes of this analysis, parcels that were vacant with no structure on the site were categorized as “vacant.” Parcels that were vacant, but had structures on the site were categorized based on what was known or could be found about the sites more recent use. This was done because of the potential reuse of these sites for the same purpose. Single family homes were categorized “residential.” The property zoned “DM-4,” previously used as a motel, was considered to be a residential use as that is its only remaining function. Despite being zoned commercial, the “office” parcel was deemed as such because it’s most recent use was office oriented. The “industrial” parcel, which is also zoned commercial, was categorized as such based on its current use for sign production, with limited to no retail function. The “utility” parcel is controlled by Lansing Board of Water and Light and functions as a service station. The remaining parcels were all considered commercial uses as they are all retail shops, auto sales and services businesses, or restaurants. *Figure 2.19* details existing land use within the S. Cedar study area.

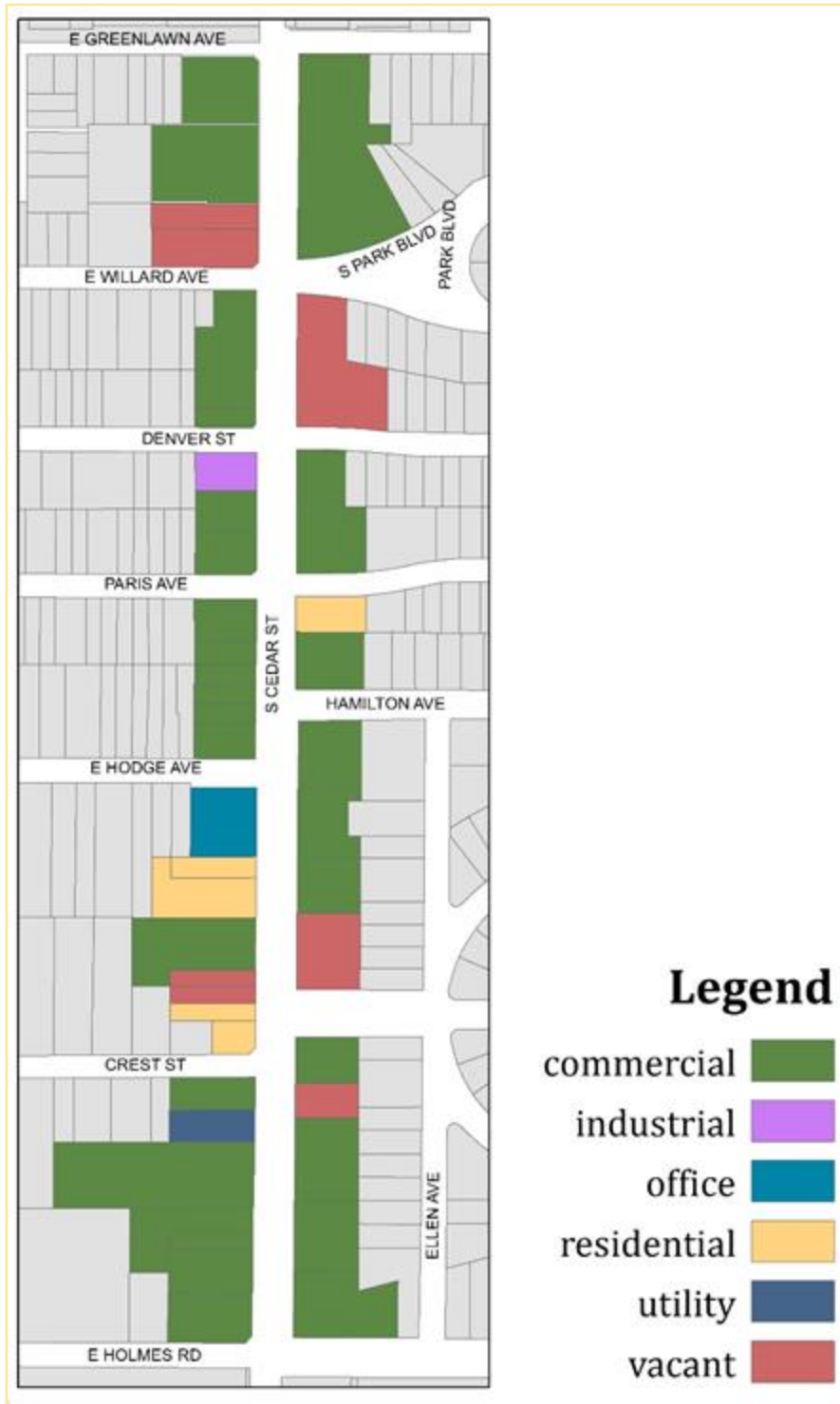


Figure 2.19- Existing land use of S. Cedar study area parcels

The existing land use in the study area is generally consistent with the mainly commercial zoning of the area (*Figure 2.20*). Approximately 67% of the study area is being used for commercial purposes, which consist of mainly commercial-retail uses, with a few restaurants. The next greatest land use is actually vacant (without structure) parcels, at 15% of the parcels. This is followed by the five residential parcels, comprising approximately 11% of the study area.

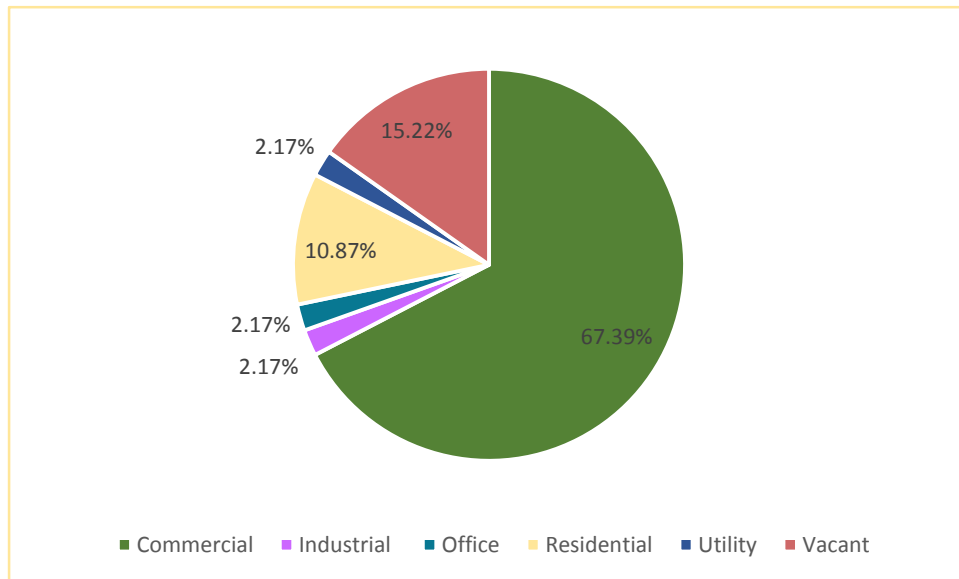


Figure 2.20- % of existing land use within S. Cedar study area

Vacancy Inventory

To better understand the study area's current status, the practicum group completed a vacancy inventory for the area. This study was not performed to obtain information about the condition of buildings within the study area, only to gather data about current occupancy. This inventory was completed in January 2014.

This inventory was completed at the parcel level. Parcels that were deemed partially vacant contain strip development³ with some building units that are occupied and some that are vacant. A parcel was considered partially vacant as long as one or more units were vacant; it was not dependent on a certain percentage of vacancy. Vacant parcels were broken down based on those with an existing structures (regardless of the condition) and those without a structure. Parcels were deemed occupied if there was 100% occupancy. *Figure 2.21* illustrates the assessment of the study area.



Figure 2.21- Vacancy analysis for S. Cedar study area

³ Commercial development where each establishment has road access and parking area access.

Of the forty-six parcels in the study area, 67.4% are occupied and 32.6% are vacant to some degree. The vacant parcels can be broken down to 40% parcels with vacant buildings, 40% vacant lots, and 20% partially vacant parcels.

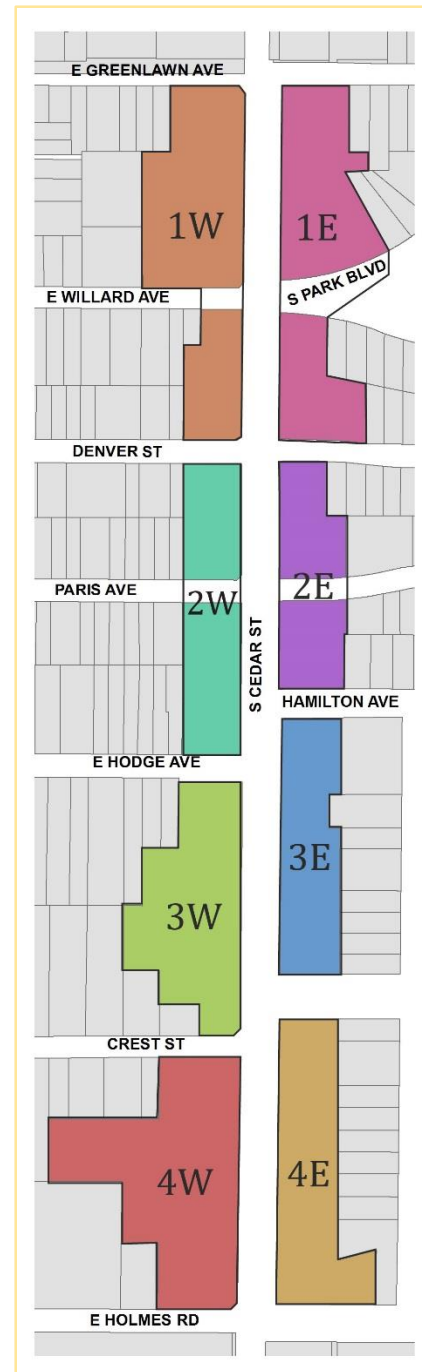
Parking Inventory

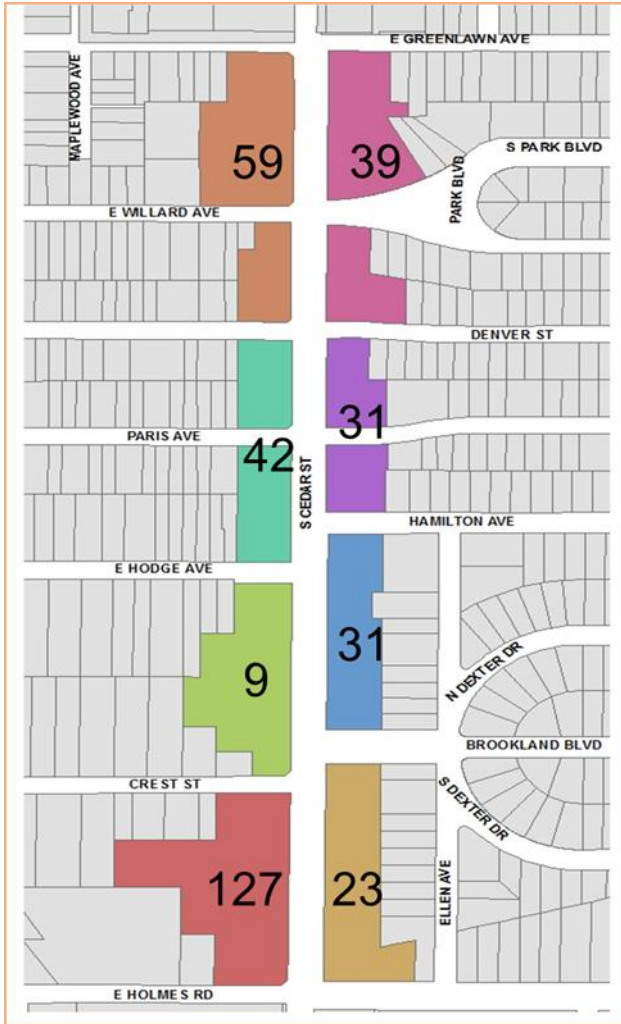
A parking inventory and usage study were performed for the area. This was to help understand the current need for parking lot space and determine the possibility for infill development in these areas. The usage study should help to demonstrate the potential to eliminate a portion of the parking lots, without negatively impacting access to businesses in the study area.

This analysis was performed based on blocks established by the team (*Figure 2.22*). The blocks were created to have roughly equal frontage distances and to allow for analysis that could be compared within the study area, without the complexity of a parcel by parcel approach. Using the blocks also allows for portions of the study area to be highlighted for the application of form based code standards.

Within the study area, there are sixteen occupied parking lots, and five vacant parking lots. An occupied parking lot is one where the associated building is either occupied or partially occupied. A vacant parking lot is one that is on the property of a vacant building or lot without a structure. The total number of parking spots in occupied lots in the study area is 361. Vacant parking lots were not considered in this count, despite some infrequent use because the entire area of these parcels has already been considered for redevelopment.

Figure 2.22- Block divisions along S. Cedar for purposes of study





Each occupied parking lot's total parking spaces were calculated and added to the other occupied parking lot spaces within their respective blocks. *Figure 2.23* shows that total number of parking spaces per block. Auto sales lots were not calculated in the total parking spaces in each block because that area is the business's sales floor.

Figure 2.23- Parking space totals per block grouping along S. Cedar study area

The current parking requirements for the City of Lansing use parking minimums as a standard. In form based codes, an emphasis is placed on decreasing parking lots because of their negative impacts by the use of shared-parking, on-street parking, and implementation of maximum parking standards. Parking maximums are set in the city's adopted form based code and limit the amount of parking each building can have and where it can be located. This is done to help create more pedestrian friendly and transit oriented developments (CMAP, 2013).

The number of parking spaces in each lot has been determined by the parking requirements in the current zoning ordinance. The current zoning for the area includes a mix of Commercial (F), Wholesale (G-2), Residential-Single (A), Parking (J), Local Shopping (E-2), and Residential Multi-family (DM-4). The parking minimums for these zoning types and their corresponding uses in our study area are detailed in *Table 2.13* below.

Table 2.13--Summary of Parking Requirements per Zoning Codes within Study Area	
Zoning	Parking Requirements for Land Uses on S. Cedar Study Area
"F" Commercial	<p><i>General Commercial</i>-One for each 110 square feet of usable floor area, <i>Furniture and appliance establishment</i>-Four for each establishment, plus one space for every 800 square feet of usable floor area self-serve auto washes, four waiting spaces per wash rack</p> <p><i>Hair stylist shop</i>. Three for each of the first two chairs and one and one-half for each additional chair</p> <p><i>Motor vehicle sales and service establishment</i>. One for each 200 square feet of usable floor space in the salesroom, and two for each auto service stall in the service area</p> <p><i>An establishment selling food for consumption only on the premise</i>: One for every 60 square feet of usable floor area, plus one for each two employees, based upon the maximum employment shift.</p>
"G-2" Wholesale	One for every 150 square feet of usable floor area
"J" Parking	Two for each dwelling unit
"E-2" Local Shopping	No minimum
	<i>Motor vehicle sales and service establishment</i> . One for each 200 square feet of usable floor space in the salesroom, and two for each auto service stall in the service area
"DM-4" Residential Multi-family	<i>Motel or hotel</i> . One for each occupancy unit, plus one for each employee in the largest working shift

Source: City of Lansing, MI Zoning Definitions, https://www.lansingmi.gov/zoning_definitions

Although businesses must comply with the zoning requirements for parking, a parking usage study was performed to determine the actual need for spaces. This was done from February to April 2014, at varying times of day, Monday through Sunday. The total number of cars parked in occupied parking lots were recorded. Parking lots for auto sales were not included because spaces being used for car display could not be differentiated from customer or employee parking. *Figure 2.24* illustrates the findings of the parking usage study

Average Parking Usage by Block

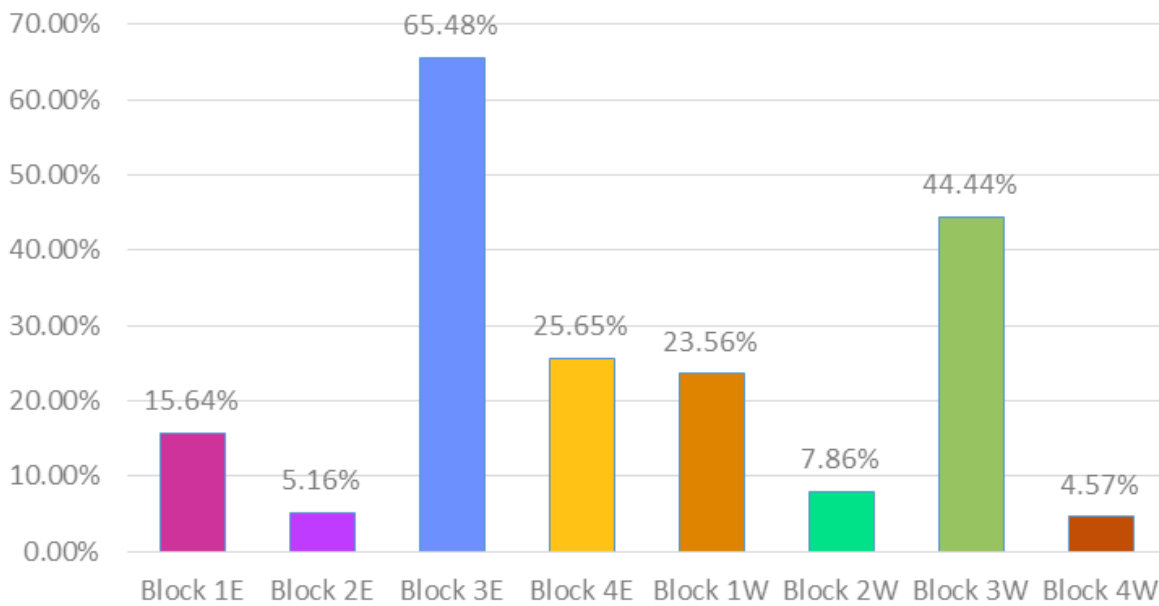


Figure 2.24- Parking usage within study area by block groupings

The parking study conducted revealed that a vast majority of parking spaces in occupied parking lots are not used. Blocks 3W and 3E have parking usage above 40%, while all the other blocks are below 25%. This suggests that these lots could be used for future development without negatively impacting access to businesses along the corridor (see *Appendix C* for data from parking inventory and usage study).

EXPLORING FORM BASED CODE

Form Based Code Matrix

Form-based codes vary case by case due to different circumstances in physical landscapes as well as socio-economic compositions. While there are general components of form based code, such as building heights, building setbacks, building coverage, and so on, the exact proportions are unique to each community as a way of complimenting the existing landscapes and controlling the overall character of the community. When reviewing multiple form based codes as references for how such a practice could be adopted in the study, it was important to contextualize each case in a uniform manner. This was achieved by applying a matrix created by the Grand Valley Metropolitan Council (GVMC)⁴ that identifies the main components of form-based code and the relationships between these components within certain “context zone” along a rural-to-urban continuum, referred to as a transect⁵. There are corresponding development and design standards for each context zone of the transect (Farr Associates, 2005).







For the purposes of this study, the GVMC transect is used as a tool to uniformly contextualize form-based codes across four case studies. The transect is also applied to the study area to depict its current status within context zones and to guide recommendations. *Table 3.1* below illustrates the matrix, including the transect and form based code components.

This study found that Context Zones **3**, **4**, and **5** were most representative of the case studies and goals for the South Cedar Corridor study area. These zones, highlighted on the matrix in *Table 3.1*, are defined as **Urban Edge**, **Urban**, and **Urban Central**. They each feature commercial and residential development, but differ in terms of density. Further comparison to the matrix can be found within the following case studies.

⁴ The Grand Valley Metropolitan Council (GVMC) is a multijurisdictional group composed of appointees from seven counties in southwest Michigan. GVMC serves as a planning entity that coordinates with public and private sectors for development across the region. GVMC’s Form Based Code Study for the Grand Valley Area of Michigan produced a form based code template derived by evaluating the region’s existing landscape and developments standards.

⁵ To systemize the analysis and coding of traditional patterns, a prototypical American rural-to-urban transect has been divided into six Transect Zones, or T-zones, for application on zoning maps.

Table 3.1- Grand Valley Metropolitan Council - Form Based Code Matrix

	Context Zone 1	Context Zone 2	Context Zone 3	Context Zone 4	Context Zone 5	Context Zone 6
	Preserve Zone	Rural Zone	Urban Edge Zone	General Urban Zone	Urban Center Zone	Urban Core Zone
						
Block & Lot Width	N/A	No discernable block pattern. Largest residential lots.	Loose grid pattern and/or curvy streets. Large lots.	Walkable blocks, predominately in grid.	Compact, walkable blocks in primary grid pattern.	Very compact, walkable blocks, in primarily a grid pattern
Street Characteristics	Few, if any streets exist, those that do may not be paved, no side-walk, curbs, or on-street parking	No curb, sidewalk, or on-street parking. A path in lieu of sidewalk may exist	Majority of right-of-way have curb, sidewalk, and on-street parking.	All right-of-way have curb, sidewalk, and on-street parking.	All right-of-way have curb, sidewalk, and on-street parking.	All right-of-way have curb, sidewalk, and on-street parking
Building Height	N/A	1-2 stories	1-2 stories	1-3 stories	2-6 stories	6+ stories
Building Siting	N/A	Very large setbacks from property lines and between buildings	Large setbacks from property lines and between buildings	Little to no setbacks for commercial. Some setback for residential	Little to no setbacks	Little to no setbacks
Building Coverage	N/A	Less than 25%	12-25%	40-95% for commercial 30-75% for residential	90-100%	95-100%
Front Coverage	N/A	N/A	N/A	50-100% for commercial	90-100%	100%
Use	N/A	Agriculture & Residential - single-family	Residential- single-family & Scattered Commercial	Commercial & Residential - single & multiple-family	Commercial, Office & Residential - multiple-family	Commercial, Office, & Residential - multiple-family

Case Studies

The existing pattern type of the South Cedar Corridor is a “Business Corridor”, as defined in Design Lansing. It features predominantly commercial and office uses, with medium sized blocks, lot sizes varying from small to large, and mostly one-story structures. Components of a Business Corridor, specifically the current conditions of the South Cedar Corridor, are featured in the matrix below.

Design Lansing designates the South Cedar Corridor as an Activity Corridor as well as an Urban Mixed-Use Corridor. An Activity Corridor is one of many proposed street typologies within Design Lansing that serve to distinguish the different development opportunities along Lansing’s many corridors and thoroughfares. An Activity Corridor should house development that fosters an active lifestyle in terms of providing entertainment, employment opportunities, and a pedestrian-friendly environment. Some components of an Activity Corridor are featured in the matrix below.

The term Urban Mixed-Use Corridor is an element of Design Lansing’s proposal for changes to the city’s zoning ordinance. Zones designated as Urban Mixed-Used Corridors have restricted uses and will be held to specific development and design standards, some of which are featured in the matrix below (*Table 3.2*). Under these requirements, the South Cedar Corridor will continue to be a mix of commercial and residential uses, but the density and infrastructure will be adjusted to a more walkable, urban scale. Moving forward with a form based code, it is important to make sure that the standards within an Urban Mixed-Use Corridor align with the goals of both an Activity Corridor and form based code, because as part of the zoning ordinance, this designation is ultimately determining what development can take place.

A comparison between a Business Corridor, Urban Mixed-Use Corridor, Activity Corridor, and the General Urban Zone extracted from the form-based code matrix, can be found in the matrix below. The General Urban Zone was selected because it best fits the height and density requirements proposed for the South Cedar Corridor and can provide inspiration in further developing a form based code. Comparing a Business Corridor to an Activity Corridor, Urban Mixed-Use Corridor, and the General Urban Zone serves to show the transition that the South Cedar Corridor needs to make in order to achieve the goals Lansing has set. Also, the matrix below compares the proposed zoning and street typology to ensure that all the goals for this corridor are cohesive to a form based code.

Table 3.2--Comparison of Context Zones				
Zoning	Business Corridor (Existing)	Urban Mixed-Use Corridor (Proposed Zoning)	Activity Corridor (Proposed Street Typology)	General Urban (Form Based Code Model)
Block & Lot Width	Medium Block sizes, Lot sizes vary from small to large	TBD by City of Lansing	N/A	Walkable blocks, predominately in a grid.
Street Characteristics	Multiple driveway curb cuts, medium to large parking lots, little/no parking screening	Shared driveways and cross-access easements along the rear property line	3-5 lanes or 2-4 lane boulevard. Center turn lanes, center lane median, crosswalk bump-outs, on-street parking	All right-of-way have curb, sidewalk, and on-street parking.
Building Height	1 story	2-4 stories	N/A	1-3 stories
Building Siting	Variable	Front setbacks 0-15ft	Buildings built close to the right of way edge and oriented toward the street.	Little to no setbacks for commercial. Some setback for residential
Building Coverage	N/A	80% Maximum coverage	N/A	40-95% for commercial & 30-75% for residential
Coverage of Front Property Line	Variable	TBD by City of Lansing	May include parallel, angle or reverse-angle on-street parking spaces. Off-street parking should be provided in the rear.	50-100% for commercial
Use	Commercial/Office	Retail, personal services, office, live-work, and selected light industrial with special approval	Provide access to entertainment, businesses, and employment for motorists, transit users, and pedestrians	Commercial & Residential - single & multiple-family

The following case studies serve to provide insight regarding what the transition would look like for the South Cedar Corridor to progress from a Business Corridor to an Activity/Urban Mixed-Use Corridor that also meets typical form-based code standards. The case studies were selected to show a range of opportunities for form-based Code. Cincinnati, Ohio offers a recent citywide form-based code⁶. Leesburg, Virginia and Birmingham, Michigan offer form based

⁶ Citywide Form-based codes foster predictable built results and a high-quality public realm by using physical form (rather than separation of uses) as the organizing principle for the code. They are regulations, not mere guidelines, adopted into city or county law.

code overlays⁷ and Grandville, Michigan offers a hybrid code⁸ that combines form-based code and conventional zoning. While every form-based code is unique to its community, reflecting on past projects can help to educate and influence the South Cedar Corridor as Lansing navigates the legislative, economic, social, and environmental components of form-based code. For that reason, each case study provides brief demographic and economic information as well as excerpts from their form-based codes inserted into the form-based code matrix.

Cincinnati, OH

The city of Cincinnati, Ohio spent five years developing their form-based code, officially adopted in 2012 and later amended in 2013. Cincinnati lost approximately 40% of its population since its peak in the 1950s, and sought form-based code as a solution to their shrinking city. Development and design standards of form based code embrace current trends of Millennials and Boomers who want more urban, walkable living environments (Opticos Design, Inc., 2012). Also, form-based code offers the opportunity to preserve historic features, especially Cincinnati’s various housing types, while supporting new development. *Figure 3.1* illustrates Cincinnati’s application of form based code to their downtown district.



Figure 3.1- FBC application in downtown Cincinnati, OH

⁷ Overlay zoning is a regulatory tool that creates a special zoning district, placed over an existing base zone(s), which identifies special provisions in addition to those in the underlying base zone. The overlay district can share common boundaries with the base zone or cut across base zone boundaries. Regulations or incentives are attached to the overlay district to protect a specific resource or guide development within a special area.

⁸ Hybrid codes involve the meshing of conventional zoning codes with graphic urban design standards that typically address setbacks, parking placement, building bulk, materials, and architectural features.

Comparing Community Characteristics: Cincinnati and Lansing

Table 3.3 below compares Cincinnati’s demographics to Lansing’s. Though the population sizes are very different, the compositions are similar. It is important to consider the demographic and economic circumstances that contribute to a community’s development.

The 2012 Census American Community Survey approximated 297,314 people living in Cincinnati. This is over double the population of Lansing’s 2012 estimate, which is 114,537 people. Both cities’ populations decreased between 2000 and 2012. Cincinnati’s population decreased by approximately 10% and Lansing lost approximately 4% of its population. The composition of Cincinnati’s population and Lansing’s population are nearly identical in terms of the proportion of each age group ranging from children to seniors.

Table 3.3--Population and Age Distribution-Cincinnati, OH								
	Cincinnati, Ohio				Lansing, Michigan			
	2000 Census		2012 Estimates		2000 Census		2012 Estimates	
Children	92,586	28%	77,275	26%	35,035	29%	29,064	26%
Young Adult	87,421	26%	81,141	27%	31,423	26%	32,029	28%
Adult	110,624	33%	105,195	35%	41,065	34%	40,933	36%
Seniors	40,654	12%	32,832	11%	11,605	10%	11,568	10%
Total	331,285	100%	296,443	100%	119,128	100%	113,594	100%

Table 3.4 indicates the median household income for Cincinnati is estimated at \$33,708. This is just below Lansing’s estimate of \$37,128. Lansing’s housing values are estimated to be \$90,000 – a 22.4% increase since 2000.

Table 3.4--Median Household Income-Cincinnati, OH			
Cincinnati, Ohio		Lansing, Michigan	
2000 Census	2012 Estimates	2000 Census	2012 Estimates
\$ 29,493.00	\$ 32,591.00	\$ 34,833.00	\$ 34,420.00

Both Cincinnati and Lansing have experienced an increase in the median value of owner-occupied housing units since 2000 (Table 3.5). Cincinnati’s housing values are estimated at \$126,900, a 36.5% increase since 2000. Lansing’s housing values are lower than Cincinnati and estimated to be \$90,000 – a 22.4% increase since 2000.

Table 3.5--Median Value of Owner-Occupied Units-Cincinnati, OH

Cincinnati, Ohio			Lansing, Michigan		
2000 Census	2012 Estimates	% Change	2000 Census	2012 Estimates	% Change
\$ 93,000.00	\$ 123,900.00	33.3%	\$ 73,500.00	\$ 83,100.00	13.1%

The employment status in Cincinnati closely resembles that of Lansing (Table 3.6). Again, the total population is very different, but the composition is proportional. Approximately 56.6% of Cincinnati’s population over the age of 16 is employed. Approximately 56.3% of Lansing’s population over the age of 16 is employed. 7.7% of Cincinnati’s population over the age of 16 is estimated to be unemployed, and 35.6% of the population over the age of 16 is not in the labor force.

Table 3.6--Employment Status-Cincinnati, OH

	Cincinnati, Ohio				Lansing, Michigan			
	2000 Census		2012 Estimates		2000 Census		2012 Estimates	
	#	%	#	%	#	%	#	%
Population 16 years and over	257,766	-	237,546	-	90,077	-	89,952	-
In Labor Force	162,546	63.1%	151,836	63.9%	61,812	68.6%	59,638	66.3%
Employed	150,574	58.4%	130,462	54.9%	57,751	64.1%	50,643	56.3%
Unemployed	11,892	4.6%	21,323	9.0%	3,925	4.4%	8,905	9.9%
Not in Labor Force	95,220	36.9%	85,710	36.1%	28,265	31.4%	30,314	33.7%

Analyzing the Code – Cincinnati, OH

Cincinnati’s form-based code is a citywide ordinance that involved heavy community participation and engagement activities throughout its development. After a series of neighborhood meetings, charrettes, workshops, and publicly distributed drafts, the city adopted a place-based ordinance⁹ that has hopes to return the city to be resident and pedestrian friendly, while also featuring healthy commercial and retail activity (Koenig, 2013).

Plan Cincinnati and a Complete Streets manual preceded the form-based code and these two materials helped to guide the code (City of Cincinnati, 2013). Also, the code is organized

⁹ Place-based planning is a way to shape the future of our city by concentrating on the look and feel of places, their form and their character, instead of focusing only on conventional categories of land use.

around a transect, not too different than that of the Grand Valley Metropolitan Council. The Cincinnati transect is heavily rooted in the Smart Code transect (*Figure 3.2*). Differences between the transect used to create the form-based code matrix and the Cincinnati Transect are that Cincinnati chose to exclude rural zones due to the urban nature of their city. Also, Cincinnati has created “district zones” that act as subzones to better regulate different uses and scale, such as lot size and setbacks.



Figure 3.2- Transect model used in Plan Cincinnati

District zones included in the Cincinnati form-based code are T3 Estate, T3 Neighborhood, T4 Neighborhood Medium Footprint, T4 Neighborhood Small Footprint, T5 Main Street, T5 Neighborhood Large Setback, T5 Neighborhood Small Setbacks, T5 Flex, T6 Downtown (City of Cincinnati, 2013).

Based on the definitions provided in the form-based code, this study has selected the T5 district zones to insert into the form-based code matrix (*Table 3.7*). The T5 Main Street district zone, which allows both residential and commercial uses, best matches the Activity/Urban Mixed Use Corridor designation and the remaining T5 district zones are complimentary to the area surrounding S. Cedar. Components of these zones are listed in the matrix.

Table 3.7--FBC Matrix for Cincinnati, OH				
Matrix Context Zone	4 - General Urban	4 - General Urban	4 - General Urban	4 - General Urban
Zoning	T5 Main Street (T5MS)	T5 Neighborhood Large Setbacks (T5N.LS)	T5 Neighborhoods Small Setbacks	T5 Flex (TSF)
Block & Lot Width	Small to large	Small to large	Small to large	Large lots
Street Characteristics	On street, off street, and shared parking	On street, off street, and shared parking	On street, off street, and shared parking	On street, off street, and shared parking
Building Height	2 Stories Minimum, 5 Stories Max 1 Story Max for Accessory Structures	1 - 4 Stories (Accessory Dwellings - 2 Stories Max, Other - 1 Story Max)	6 stories Maximum Accessory Structures - 2 stories max Other - 1 story max	8 stories Maximum Accessory - 2 stories max Other - 1 story max
Building Siting	Small to No Setbacks	Medium to Large Front Setback, Small to Medium Side Setback	Building at or close to ROW Small to no side setbacks	Building at the ROW Small to no side setbacks
Building Coverage	Small to medium	Small to medium	Small to medium	Small to large
Coverage of Front Property Line	Front - 90% minimum Side - 60% minimum	Front - 80% minimum Side - 50% minimum	Front - 75% minimum Side - 50% minimum	Front - 40 % minimum Side- 50% minimum
Use	Residential, Retail, Services, Recreation, Education, Public Assembly, Agriculture, Industry, Transportation, Accessory	Residential, Retail, Services, Recreation, Education, Public Assembly, Agriculture	Residential, Recreation, Education, Public Assembly,	Residential, Light Retail, Services, Recreation, Education, Public Assembly, Agriculture, Industry, Manufacturing, Transportation, Communication

Implications and Considerations for Applying Cincinnati’s Code to Lansing

The similarities in demographic composition as well as economic factors between Lansing and Cincinnati suggest a potential for Lansing to mimic the type of development catalyzed by Cincinnati’s form-based code. In terms of design and building characteristics, Lansing must consider that Cincinnati’s form-based code strives to preserve conditions - meaning that the infrastructure already closely matched that of the code. In Lansing’s case, there is not as much being preserved compared to features that will be required to make transitions. Lansing will have to explore programs that can fund such change for both the municipality and effected property owners.

Birmingham, MI- Triangle District

In 2007, LSL Planning consulted with the City of Birmingham, Michigan throughout the city’s process to adopt a “Triangle Overlay District”, featuring form-based code, into the master plan for the “Triangle District”. The goal of Birmingham’s form-based code overlay was “to create a plan for [the Triangle District] that will guide development in a manner that compliments downtown and enhances the character of the entire city [of Birmingham]” (LSL Planning, 2007). This case exemplifies how form-based code can be used predominantly for creating and enforcing design standards. *Figure 3.3* shows these design standards applied to Birmingham’s Triangle District downtown.



Figure 3.3- FBC application in downtown Birmingham, MI

Comparing Community Characteristics: Birmingham and Lansing

The city of Birmingham is much smaller than Lansing. Birmingham has an estimated population of 20,279 and Lansing is estimated at 113,594 (*Table 3.8*). The composition of these populations are not proportional either. Birmingham is home to a more mature population, while Lansing has more young adults and children.

Table 3.8--Population and Age Distribution-Birmingham, MI								
	Birmingham, Michigan				Lansing, Michigan			
	2000 Census		2012 Estimates		2000 Census		2012 Estimates	
Children 0-19	4,296	22%	5,541	27%	35,035	29%	29,064	26%
Young Adult 20-34	3,831	20%	2,775	14%	31,423	26%	32,029	28%
Adult 35-64	8,464	44%	9,172	45%	41,065	34%	40,933	36%
Seniors 35-85+	2700	14%	2,791	14%	11,605	10%	11,568	10%
Total	19,291	100%	20,279	100%	119,128	100%	113,594	100%

The median household income for Birmingham and Lansing reveals the steep economic differences between the two communities (*Table 3.9*). Birmingham is much more affluent, with a 2012 estimated median household income of \$100,789, a 25% increase since 2000. Lansing's estimated median household income for 2012 is \$37,128, which is a 6.6% increase since 2000.

Table 3.9--Median Household Income-Birmingham, MI			
Birmingham, Michigan		Lansing, Michigan	
2000 Census	2012 Estimates	2000 Census	2012 Estimates
\$ 80,861.00	\$ 95,521.00	\$ 34,833.00	\$ 34,420.00

The economic differences between Birmingham and Lansing are further confirmed by the median value of owner-occupied housing units (*Table 3.10*). At approximately \$339,600, the estimated 2012 median value of a home in Birmingham is more than triple that of Lansing's, which is estimated to be \$90,000. However, since 2000, Lansing has seen a greater increase in value.

Table 3.10--Median Value of Owner-Occupied Units-Birmingham, MI					
Birmingham, Michigan			Lansing, Michigan		
2000 Census	2012 Estimates	% Change	2000 Census	2012 Estimates	% Change
\$ 318,000.00	\$ 346,300.00	9%	\$ 73,500.00	\$ 83,100.00	13%

2012 estimates show that 63.7% of Birmingham's population over the age of 16 is employed and 56.3% of Lansing's population over the age of 16 is employed (*Table 3.11*). Lansing has a higher unemployment rate with 9.4% of the population over the age of 16 unemployed. In Birmingham, only 3.1% of the population over the age of 16 is unemployed. In both cities, approximately 33% of the population over the age of 16 is considered not in the labor force.

Table 3.11--Employment Status-Birmingham, MI								
	Birmingham, Michigan				Lansing, Michigan			
	2000 Census		2012 Estimates		2000 Census		2012 Estimates	
	#	%	#	%	#	%	#	%
Population 16 years and over	15,597		17,714		90077		89952	
In Labor Force	10,718	68.7%	10,579	59.7%	61,812	68.6%	59,638	66.3%
Employed	10,472	67.1%	10,091	57.0%	57,751	64.1%	50,643	56.3%
Unemployed	246	1.6%	488	2.8%	3,925	4.4%	8,905	9.9%
Not in Labor Force	4,879	31.3%	5,135	29.0%	28,265	31.4%	30,314	33.7%

Analyzing the Code - Birmingham, MI

In terms of form-based code enforcement, Birmingham requires new developments to comply with full terms of the overlay code. However, existing uses prior to adoption are permitted to continue (City of Birmingham, 2006). This type of flexible compliance for existing uses minimizes the financial burden for residents and businesses that occupied the Triangle District prior to form-based code implementation and also serves as a form of preservation. Though new developments are held to higher standards than existing uses, the benefit is consistency in the development process as well as in the resulting designs. Proposed developments can prioritize and budget for regulations within the code, ultimately streamlining each phase from development proposal to project completion, while still producing quality, and aesthetically pleasing structures.

Birmingham's Triangle District permits a variety of uses by featuring four zones: Attached Single Family 3 (ASF-3), Mixed Use 3 (MU-3), and Mixed Use 5 (MU-5). *Table 3.12* summarizes parts of Birmingham's adopted form based code and the requirements that match the goal of Design Lansing and potential for the South Cedar Corridor (City of Birmingham, 2006). *Figure 3.4* provides an illustration of form based code application for the Triangle District.

Table 3.12--FBC Matrix for Birmingham, MI Triangle District

Matrix Context Zone	4 - General Urban	4 - General Urban	5 - Urban Center
Zoning	ASF – 3	MU -3	MU - 5
Block & Lot Width	N/A	N/A	N/A
Street Characteristics	Sidewalks in the Triangle Overlay District shall be a minimum of 12 feet wide. Sidewalks along Woodward Avenue shall be a minimum of 7 feet wide. One (1) canopy tree shall be provided for every 40 feet of frontage planted within tree grates in the sidewalk.	Sidewalks in the Triangle Overlay District shall be a minimum of 12 feet wide. Sidewalks along Woodward Avenue shall be a minimum of 7 feet wide. One (1) canopy tree shall be provided for every 40 feet of frontage planted within tree grates in the sidewalk.	Sidewalks in the Triangle Overlay District shall be a minimum of 12 feet wide. Sidewalks along Woodward Avenue shall be a minimum of 7 feet wide. One (1) canopy tree shall be provided for every 40 feet of frontage planted within tree grates in the sidewalk.
Building Height	2-3 stories	24ft. And 2 stories minimum building height, 42-foot and 3 stories maximum building height	34 ft. and 3 stories minimum building height, 66-foot and 5 stories maximum building height
Building Siting	5 ft. minimum front yard setback, zero for live-work units, 9-10ft. Minimum side yard setbacks, 10ft. Minimum rear setbacks	Zero minimum front yard setback, 5ft. Maximum front yard setback, Zero minimum side setback with walls facing side lot line that do not contain windows, 10 ft. for wall that contain windows, 20 ft. adjacent to single family residential zoning district, 10 ft. rear minimum	Zero minimum front yard setback, 5ft maximum front yard setback. Zero side setback with walls facing lot line that do not contain windows. 10 ft. for walls that contain windows. Rear set back not applicable.
Building Coverage	Not specified	Not specified	Not specified
Coverage of Front Property Line	N/A	The building façade shall be built-to within 5 feet of the front lot line for a minimum of 75% of the street frontage length.	The building façade shall be built-to within 5 feet of the front lot line for a minimum of 75% of the street frontage length.
Use	Attached Single Family	Mixed Use - Commercial/Residential	Mixed Use - Commercial/Residential

Implications and Considerations for Applying Birmingham’s Code to Lansing

Differences in the socio-economic composition between Birmingham and Lansing should be taken into consideration when reasoning how feasible Birmingham’s form-based code model is to implement in Lansing. The much higher incomes and lower unemployment rates suggests more economic stability - probably indicative of a higher tax base that can support infrastructure improvements and continual maintenance. Birmingham’s affluence is capable of shaping both the economic development and ability for both business owners and residents to afford compliance to new regulations. The stark economic differences between Birmingham and Lansing suggests a need to look into programs that can help ease any potential burden that a new ordinance would place on residents or business owners. The stark economic differences between Birmingham and Lansing suggests a need to explore programs that can help ease any financial burden that a new ordinance would place on residents or business owners in Lansing. Also, Birmingham formed the Birmingham Triangle District Corridor Improvement Authority to monitor development and compliance within the form-based code district (City of Birmingham, 2014). Should Lansing choose to adopt and implement form based code, the city should consider a similar authority.



Figure 3.4- Artist’s rendition of FBC application in Triangle District

Leesburg, VA- Crescent Form-Based District:

Leesburg, Virginia is a northwestern suburb of Washington, D.C. Similar to Lansing, development started to become overtly automobile-oriented. The city targeted its Crescent District to adopt and implement form based code. Also, similar to Lansing’s South Cedar Corridor, the existing landscape of the Crescent District, prior to adoption of form based code, was suburban and featured elements of development and design such as large setbacks and block sizes that do not conform to form based code. The form-based code, implemented in January 2011 and amended in 2013, was an approach to return the community to the neighborhood and pedestrian realm (LSL Planning, 2013A). New development within the Crescent District of Leesburg is meant to model the town’s historic downtown’s characteristics. *Figure 3.5* highlights the form based code applied to the downtown district of Leesburg.



Figure 3.5- FBC application in Leesburg, VA

Comparing Community Characteristics: Leesburg and Lansing

At approximately 43,208 people in 2012, Leesburg’s population is a little less than half of Lansing’s, which is estimated to be 113,594 for 2012 (Table 3.13). The population in Leesburg is more concentrated in the adult and children age groups than in Lansing.

Table 3.13--Population and Age Distribution-Leesburg, VA								
	Leesburg, Virginia				Lansing, Michigan			
	2000 Census		2012 Estimates		2000 Census		2012 Estimates	
Children 0-19	8,774	31%	13,916	31%	35,035	29%	29,064	26%
Young Adult 20-34	6,525	23%	9,699	22%	31,423	26%	32,029	28%
Adult 35-64	11,273	40%	18,067	41%	41,065	34%	40,933	36%
Seniors 35-85+	1,739	6%	2,804	6%	11,605	10%	11,568	10%
Total	28,311	100%	44,486	100%	119,128	100%	113,594	100%

The median household income in Leesburg grew approximately 30% from 2000 to 2012. At an estimated \$98,054 Leesburg’s median household income is more than double that of Lansing’s, which is estimated to be \$37,128 (Table 3.14).

Table 3.14--Median Household Income-Leesburg, VA			
Leesburg, Virginia		Lansing, Michigan	
2000 Census	2012 Estimates	2000 Census	2012 Estimates
\$ 68,861.00	\$ 95,104.00	\$ 34,833.00	\$ 34,420.00

The median value of owner-occupied units in Leesburg grew an estimated 105% between 2000 and 2012 from approximately \$188,400 to \$386,200 (Table 3.15). The median value of owner-occupied units in Lansing only grew 22.4% between 2000 and 2012. At an estimated \$90,000 for 2012, Lansing’s owner-occupied units are valued at less than a quarter of Leesburg’s.

Table 3.15--Median Value of Owner-Occupied Units-Leesburg, VA					
Leesburg, Virginia			Lansing, Michigan		
2000 Census	2012 Estimates	% Change	2000 Census	2012 Estimates	% Change
\$ 188,400.00	\$ 366,200.00	94%	\$ 73,500.00	\$ 83,100.00	13%

About 73.2% of Leesburg’s population over the age of 16 is employed (*Table 3.16*). Estimates for Lansing show only 56.3% population over the age of 16 is employed. 4.8% of Leesburg’s population over the age of 16 is considered unemployed, while 22.9% of this population is considered not in the labor force. In Lansing, 9.4% of the population over the age of 16 is unemployed – almost double the percentage in Leesburg. 33.1% of Lansing’s population over the age of 16 is considered not in the labor force.

Table 3.16--Employment Status-Leesburg, VA								
	Leesburg, Virginia				Lansing, Michigan			
	2000 Census		2012 Estimates		2000 Census		2012 Estimates	
	#	%	#	%	#	%	#	%
Population 16 years and over	20,654		32,375		90,077		89,952	
In Labor Force	15,934	77.1%	25,044	77.4%	61,812	68.6%	59,638	66.3%
Employed	15,535	75.2%	23,470	72.5%	57,751	64.1%	50,643	56.3%
Unemployed	335	1.6%	1,359	4.2%	3,925	4.4%	8,905	9.9%
Not in Labor Force	4,720	22.9%	7,331	22.6%	28,265	31.4%	30,314	33.7%

Analyzing the Code: Leesburg

Leesburg, Virginia created a form-based code overlay district that was officially adopted in February of 2011 and later amended in 2013. The district, called the Crescent District, includes 215 lots that span across approximately 430 acres (Town of Leesburg, 2013A). Leesburg incorporated design guidelines, residential density increases, and pedestrian-friendly streetscapes that cater closely to the form based code matrix. Leesburg incorporated design guidelines, residential density increases, and pedestrian-friendly streetscapes that cater closely to the form based code matrix. The implementation of Leesburg’s form based code relies entirely on private funds from residents and business owners, who are developing or redeveloping to conform to the new standards. Every property is allowed a one-time expansion (with a maximum build-out of 10%) that does not fully comply with the code. The cost of full compliance to form based code is often a deterrent. Leesburg’s one-time expansion allows an affordable option that continues development and improvement within the Crescent District and gradually contributes to the long term goal of full compliance. Though the code places financial responsibility on the private sector, Leesburg anticipates using public funds on infrastructural improvements and projects that will spur more development (C. Murphy, personal communication, April, 22, 2014).

The Crescent District is divided into nine different uses: Residential Medium Density, Residential High Density, Mixed Use Residential, Commercial, Mixed Use Optional, Institutional, Open Space/Commercial Optional, Open Space, and Commercial Corridor (Town of Leesburg, 2013B). The two uses most compatible with an Activity/Urban Mixed-Use

corridor are Commercial, which is “primarily commercial with the possibility for residential uses on the second floor and above, and Mixed Use Optional, which is “primarily commercial, but free-standing high density residential buildings permitted as an option in rezoning.” In *Table 3.17*, these uses have been inserted into the form based code matrix.

Table 3.17--FBC Matrix for Leesburg, VA Crescent Form Based District		
Matrix Context Zone	4 - General Urban	4 - General Urban
Zoning	Commercial (CD-C)	Mixed Use Optional (CD-MUO)
Block & Lot Width	No minimum	No minimum
Street Characteristics	No on-street parking on urban blvd. Both sides of general street	No on-street parking on urban blvd. Both sides of general street
Building Height	2-5 stories	2-5 stories
Building Siting	Little to no setbacks, 25ft required where adjacent to a residential district	Little to no setbacks, 25ft required where adjacent to a residential district
Building Coverage	5% Site Area = Open Space 5 % Site Area = Amenities No min/max build	5% Site Area = Open Space 5 % Site Area = Amenities No min/max build
Coverage of Front Property Line	66% of the frontage occupied by building façade	66% of the frontage occupied by building façade
Use	Commercial, residential	Commercial, residential

Implications and Considerations for Applying Leesburg’s Code to Lansing

The Leesburg form-based code offers a good example of how to transition from a suburban, automobile-oriented landscape to one that is more pedestrian friendly. Being that this is a goal of Design Lansing, Lansing could refer to the Leesburg zoning ordinance as a way to focus development to cater to pedestrians. In terms of economic development, Leesburg experienced a much larger population increase between 2000 and 2012. Also, the population of Leesburg is more affluent than Lansing. These factors suggest that there was a demand for development and ability to fund it, especially considering the private financing approach.

Lansing should consider conducting some sort of research that reveals a specific market demand for either the current population or the population they wish to attract to the South Cedar Corridor. This can help to determine the type of development potential along the South Cedar Corridor. If Lansing chooses to model Leesburg’s private financing technique, then the city could consider drafting a Capital Improvement Plan that outlines and budgets for infrastructural development that could spur the private sector to also make improvements and comply with form based code.

Grandville, MI- Hybrid Zoning Ordinance

Grandville, Michigan is a much less urban environment than the previous case studies, however, this community's approach to form based code provides a good example of hybrid zoning- one that allows for a mix of conventional zoning and form based code (LSL Planning, 2013B). Grandville made the decision to adopt such a code as a way to maintain their historic neighborhoods, foster pedestrian-friendly main streets, while also recognizing that some of their existing commercial districts do not have as much potential to conform to the many regulations of form-based code. This allows Grandville to concentrate their efforts and funds to portions of the community where change is feasible and welcome (Matt Butts, personal communication, February 12, 2014). *Figure 3.6* highlights form based code application downtown through Grandville's hybrid zoning ordinance.



Figure 3.6- FBC application in Grandville, MI

Comparing Community Characteristics: Grandville and Lansing

The 2012 estimated population for Grandville is 15,502 people – a slight drop since the 2000 Census, which reported a population of 16,263 (*Table 3.18*). The composition of Grandville’s population is relatively similar to that of Lansing, with noticeable differences being a smaller young adult population and a slightly large senior population.

Table 3.18--Population and Age Distribution-Grandville, MI								
	Grandville, Michigan				Lansing, Michigan			
	2000 Census		2012 Estimates		2000 Census		2012 Estimates	
Children 0-19	5,004	31%	4,320	28%	35,035	29%	29,064	26%
Young Adult 20-34	3,305	20%	3,268	21%	31,423	26%	32,029	28%
Adult 35-64	5,880	36%	5,701	37%	41,065	34%	40,933	36%
Seniors 35-85+	2,074	13%	2,213	14%	11,605	10%	11,568	10%
Total	16,263	100%	15,502	100%	119,128	100%	113,594	100%

The median household income of Grandville rose an estimated 12% between 2000 and 2012 from \$47,570 to \$53,232 (*Table 3.19*). The 2012 median household income of Grandville is about 43% higher than that of Lansing, whose income increased by about 6.6% between 2000 and 2012 from \$34,833 to \$37,128.

Table 3.19--Median Household Income-Grandville, MI			
Grandville, Michigan		Lansing, Michigan	
2000 Census	2012 Estimates	2000 Census	2012 Estimates
\$ 47,570.00	\$ 53,232.00	\$ 34,833.00	\$ 34,420.00

The median value of owner-occupied units in Grandville is estimate to be higher than Lansing (*Table 3.20*). Between 2000 and 2012, the median value of owner-occupied units in Grandville rose 14.4% from \$122,200 to \$139,800. In Lansing, the median value of owner-occupied units rose 22.4% from \$73,500 to \$90,000. Though the values are higher in Grandville, the change in value was greater in Lansing.

Table 3.20--Median Value of Owner-Occupied Units-Grandville, MI					
Grandville, Michigan			Lansing, Michigan		
2000 Census	2012 Estimates	% Change	2000 Census	2012 Estimates	% Change
\$ 122,200.00	\$ 139,800.00	114%	\$ 73,500.00	\$ 83,100.00	113%

2012 data estimates 63.2% of Grandville’s population over the age of 16 as employed (*Table 3.21*). This is slightly higher than Lansing’s estimated employment rate which is 56.3%. In Grandville, 5.7% of the population over the age of 16 is unemployed and 31.1% is considered not in the labor force. Lansing’s unemployment rate is higher at 9.4% as well as those not in the labor force which is 33.1% of the population over the age of 16.

Table 3.21--Employment Status-Grandville, MI								
	Grandville, Michigan				Lansing, Michigan			
	2000 Census		2012 Estimates		2000 Census		2012 Estimates	
	#	%	#	%	#	%	#	%
Population 16 years and over	12,270		12,059		90,077		89,952	
In Labor Force	8,918	72.7%	8,307	68.9%	61,812	68.6%	59,638	66.3%
Employed	8,683	70.8%	7,619	63.2%	57,751	64.1%	50,643	56.3%
Unemployed	235	1.9%	688	5.7%	3,925	4.4%	8,905	9.9%
Not in Labor Force	3,352	27.3%	3,752	31.1%	28,265	31.4%	30,314	33.7%

Analyzing the Code: Grandville

Within the hybrid zoning ordinance, form-based code in Leesburg is applied in two districts. The Prairie/Barrett District is a predominantly residential portion of Grandville. The Central Business District, however, matches the criteria of South Cedar as an Activity/Urban Mixed-Use Corridor. The Central Business District in Grandville functions as a mix of retail, office, and residential with the goal of fostering pedestrian activity (City of Grandville, 2010). In *Table 3.22*, the Central Business District has been inserted in the form-based code matrix

Table 3.22--FBC Matrix for Grandville, MI Hybrid Zoning Ordinance	
Matrix Context Zone	4 - General Urban
Zoning	Central Business District (CBD)
Block & Lot Width	No minimum or maximum
Street Characteristics	On street and off street parking permitted
Building Height	minimum 20 ft, maximum 50 ft
Building Siting	0-5ft front setbacks 0-10 side setbacks 15ft rear setbacks
Building Coverage	No min/max coverage
Coverage of Front Property Line	80% of frontage occupied by building facade
Use	Commercial, Mixed Use, Residential

Implications and Considerations for Applying Grandville's Code to Lansing

Grandville's smaller, more affluent population may play a role in the implementation of form-based code. Residents and business owners are able to afford changes needed to comply to the form-based code. Also, a long established Tax Increment Financing (TIF) zone in Grandville allowed for a façade improvement program as well as a signage improvement program. Together, these resources helped to fund the form-based code. Lansing should consider whether or not the municipality should pursue similar programs to support form-based case and determine how established a program such as a TIF should be before implementing a change as large scale as a new form-based code.

BUILD OUT ANALYSIS

An analysis of the study area parcels was performed to determine the current building coverage, as well as the potential for future development. To perform this build out analysis, the total area covered by parcels along the South Cedar Corridor, between Greenlawn Avenue and Holmes Road, was calculated using ArcGIS and an aerial image of Lansing. This area was found to be **18.83 acres** (820,945.80 square feet). ArcGIS was also used to calculate the total acreage covered by buildings within the parcels. As of February 2014, **3.33 acres** (144,937.84 square feet) were covered by buildings, representing **17.6%** building coverage¹⁰ in the area. The total areas covered by pavement was found to be **7.71 acres** (335,858 square feet). This represents 40.9% pavement coverage.

The current building coverage is less than 18%. Form based code would generally prescribe greater density in the area. Based on the case studies performed for this report, building coverage in form based codes is generally between forty and one hundred percent. Using the case study standards and Design Lansing regulations for an Urban Mixed-Use Corridor, an analysis of the future potential development area under form based code was performed, using guidelines of 40% and 80% building coverage, and 1, 2, and 3 story development.

Table 4.1 details estimates from the build out analysis. Assuming conservative development, or initial stages of development in the area, to be **40%** building coverage and one story buildings, there is the potential to increase the useable building square footage in the area from **144,937.84** to **328,378.32** square feet. Assuming greater or longer-term development in the area to be **80%** building coverage and 3 stories, there is the potential to increase the useable building square footage in the area to **1,970,269.92** square feet. This increased density to meet the form based code standards can be accommodated by the infill of existing parking areas.

Table 4.1--Build Out Potential for South Cedar Study Area	
40% Building Coverage	80% Building Coverage
328,378.32	656,756.64
x 2 stories	
656,756.64	1,313,513.28
OR	OR
x 3 stories	
985,134.96	1,970,269.92

¹⁰ Building coverage means that portion of a site which is covered by buildings or parts of buildings, including overhanging or cantilevered parts of buildings

TAX ASSESSMENT ANALYSIS

Introduction

Transitioning from conventional zoning to form based code would have several economic implications, including the amount of property tax revenue collected by the municipality. Based on examples from case studies, a move to form based code would alter the current building coverage of the study area. This has property tax implications as the size of the tax base would be quite different than what it is today.

This section analyzes data from the Lansing Assessor's office in an effort to better gauge the current economic conditions of the area, how the tax base might change due to form based code, how density changes would affect the amount of property tax revenue, as well as discover anomalies and challenges to development. Data from the assessor's office that was catalogued and analyzed included assessed land values¹¹, assessed property values¹², property tax revenue¹³, and the number of properties that are paying taxes.

Study Area Overview

Nearly 90% of the properties in the study area is taxed at commercial and commercial personal millage rates. Millage rates are the set tax rate based on the final taxable value of a property. Properties are taxed by an amount of mills. A mill is the amount per \$1,000 of final taxable value on a property that is owed in taxes. Commercial personal is defined as all equipment, furniture, and fixtures on commercial parcels and inventories. Commercial rates, which are also known as non-homestead, refers to "property, except principal residence and other property exempted by law" (www.michigan.gov/treasury). Non-homestead property includes industrial and commercial property, apartment buildings, rental homes, vacation property, and some vacant land. It does not include a family's primary residence. A move to form based code is not likely to alter the rates at which the study area is taxed at, provided the corridor remains a largely commercial oriented area.

¹¹ Assessed Land Value is defined to be the value of land that taxes are based on.

¹² Assessed Property is defined as the money amount that taxes are to be paid on for all property.

¹³ Property tax revenue is defined as the total money amount paid in taxes for holding property.

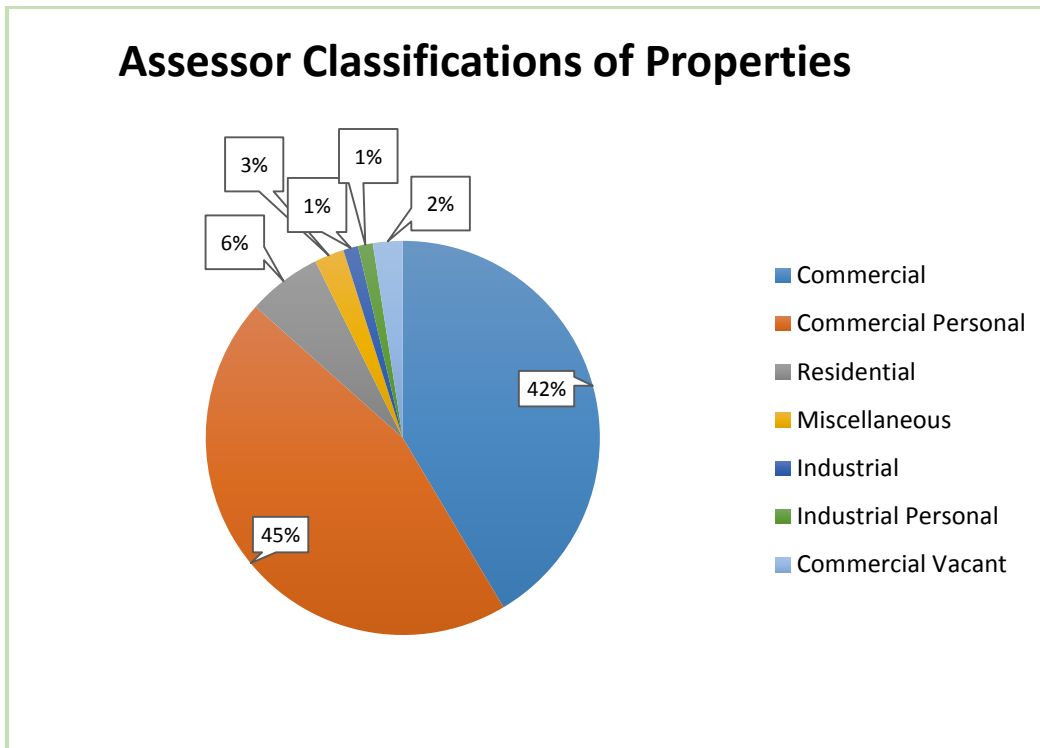


Figure 5.1- Assessor property classifications within S. Cedar study area

The total assessed property value for the South Cedar corridor is \$3,507,700 at the end of 2013. With a total of 82 different ownership entities, the average value is \$42,777 per enterprise. The total property tax revenue owed to the city of Lansing, in the study area, in 2013 was \$251,011. This would put the average millage at 7%, or 70 mills per thousand. No parcels in the study area classified as special assessment¹⁴ and are not inclusive to Lansing’s renaissance zone¹⁵. Therefore, the parcels are neither advantaged nor disadvantaged from a property tax perspective.

¹⁴ Special Assessment refers to a charge levied against a property for the use of unique benefits.

¹⁵ Renaissance Zones are parts of Lansing which are virtually free of all state and local taxes for businesses located within their boundaries for up to 15 years. These zones are established to promote economic development throughout the state. The City of Lansing currently has one active Renaissance Zone and is one of a select few cities in Michigan with ability to designate additional zones (www.edc.lansingmi.gov).

Block 1 holds the most value than the rest of the study area. Together, block 1 east and block 1 west comprise 38% of the assessed value of the entire study area (Figure 5.2). Also to note, is the fact that the West side of the South Cedar Corridor holds more assessed value compared to the East side. In the study area, the east side of the corridor is only worth 75% of the west side's value. Property value is greater towards the north and south boundaries of the study area compared to the blocks located in the middle of the study area. Properties near the intersections of Greenlawn and Cedar as well as Holmes and Cedar command higher assessed property values.

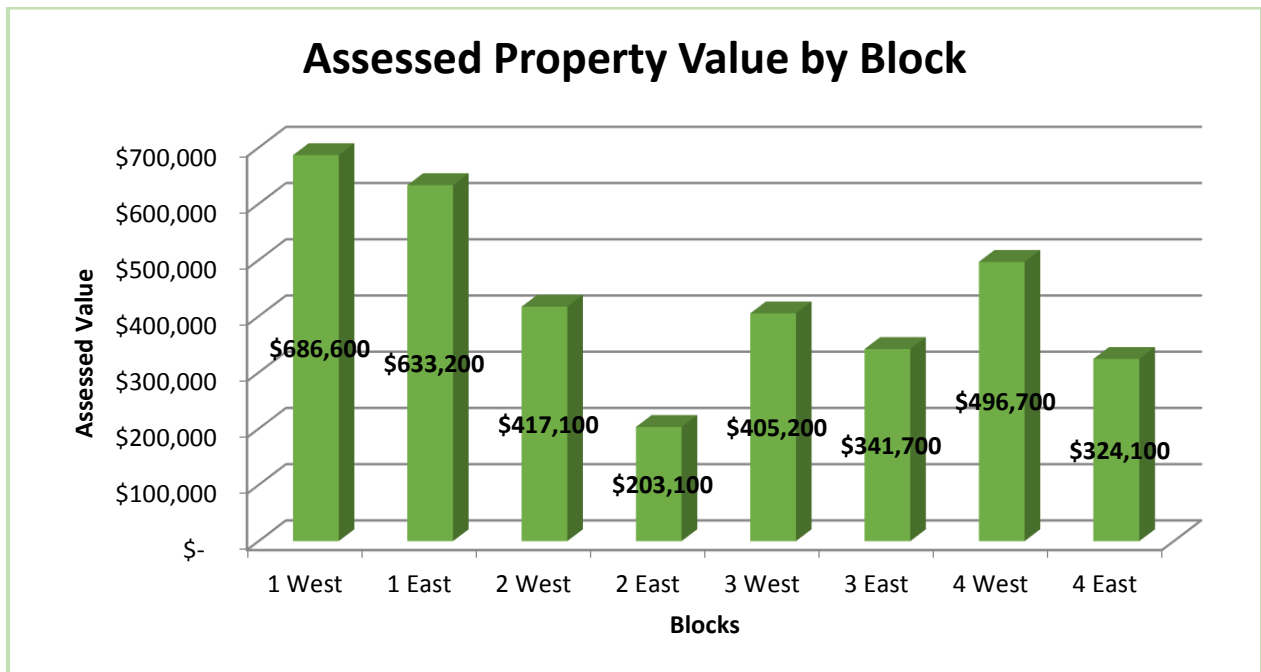


Figure 5.2- Property value by block within S. Cedar study area

Similar to the assessed property values, the assessed land values located in the block 1 group and block 4 group hold higher land values compared to blocks 2 and 3 (Figure 5.3). The whole study area accounts for \$2,485,600 worth of total land value. This would make the average land value per block in the study area worth \$310,700.

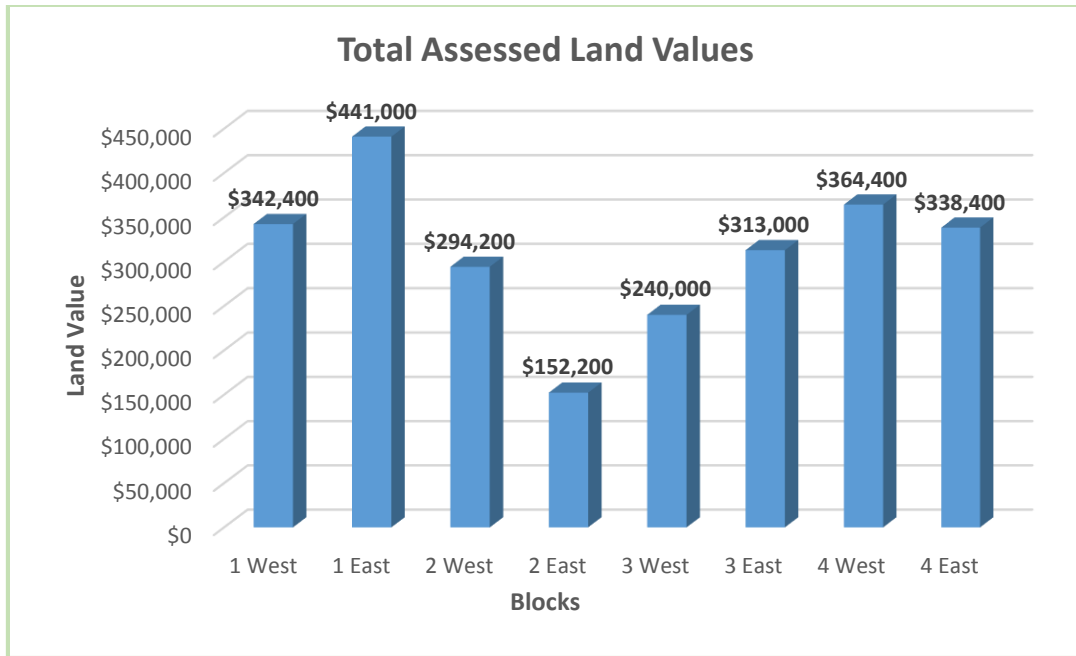


Figure 5.3- Assessed land value by block within S. Cedar study area

An analysis of the land value data shows that value is concentrated at the northern and southern boundaries of the study area. Similarly to property values, the major intersections of Greenlawn Avenue and Holmes Road are valued the highest. The average land value for blocks 1 and blocks 4 is valued at \$371,550, while blocks 2 and 3 are valued at an average of \$249,850, 33% lower. As opposed to assessed property figures, there is no pattern of land values in relation to east-west.

Tax revenue from the study area correlates to the assessed property values for each block (Figure 5.4). The majority of tax revenue comes from the west side of the street. No eastern block generates more property tax revenue than its western counterpart. Again, the block 1 group generates substantially more tax revenue than any of the other blocks.

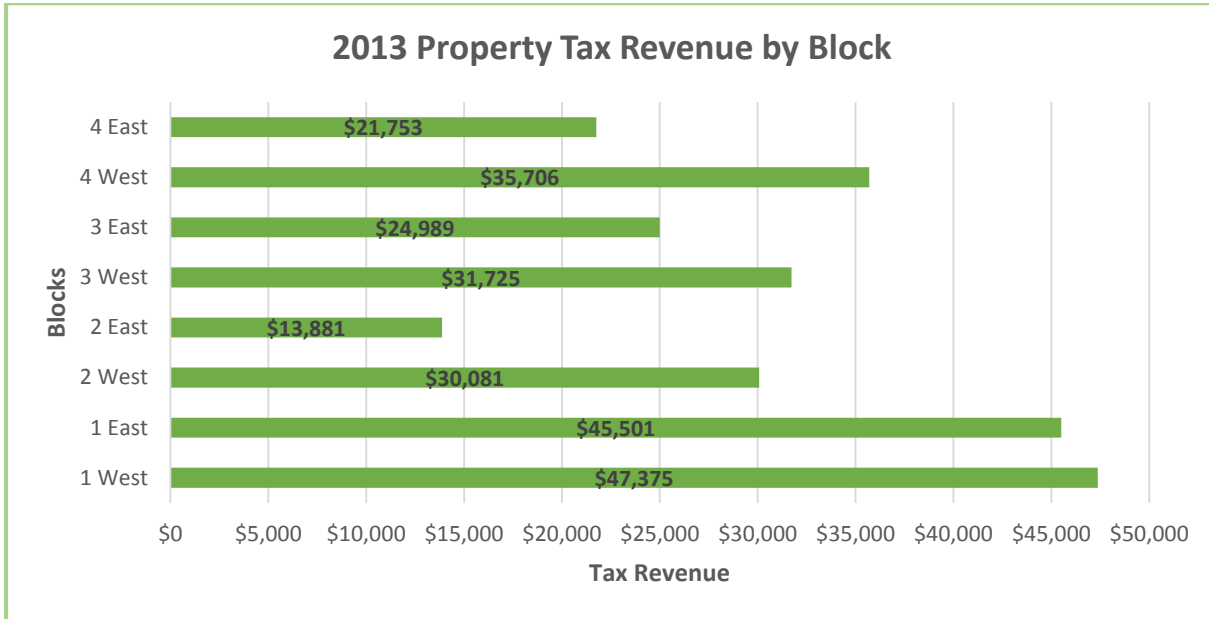


Figure 5.4- Property tax revenue by block within S. Cedar study area

Further exploration of the assessor data is analyzed by units, in this instance, square feet. Measuring value by units, whether it is property value or tax revenue, is a useful tool in determining the value that each block is generating for the community. Table 5.1 lists the land value, property value, and tax revenue that each block generates for the study area. Also, for reference, a list of sizes for each block is provided.

Blocks	Size of Block (Ft ²)	Assessed Property Value (Ft ²)	Assessed Land Value (Ft ²)	Tax Revenue (Ft ²)
1 West	129,889	\$5.39	\$2.64	\$0.36
1 East	118,316	\$5.46	\$3.73	\$0.38
2 West	79,494	\$5.25	\$3.70	\$0.38
2 East	63,006	\$3.22	\$2.42	\$0.22
3 West	108,920	\$3.79	\$2.20	\$0.29
3 East	75,409	\$4.62	\$4.15	\$0.33
4 West	149,051	\$3.40	\$2.44	\$0.24
4 East	96,860	\$3.41	\$3.49	\$0.22

Assessed land value per square foot demonstrates different characteristics compare to total assessed land value. Here, block 3 east holds the most value per square foot, despite the fact that it has a relatively lower total land value and a smaller size compared to the rest of the study area.

Data for assessed property value shows the eastern blocks of the study area hold more value per square foot in all blocks except for block 2; albeit, blocks 4 east and 4 west are valued at essentially the same amount. Blocks 1 east and 1 west are also very close in value per square foot. The average property value of the entire study area, encompassing all blocks, is \$4.27 per square foot.

Again, data proves the property tax revenue that is generated in the study area is highest at the northern boundary of the study area, near the intersection of Cedar and Greenlawn. Blocks 1 west, 1 east, and 2 west generate the most tax revenue per unit in the study area. Oppositely, the lowest revenue generating blocks are 2 east, 4 east, and 4 west.

Although the city was owed \$ 251,011.72 in property taxes for properties located in the study area, only 63% of property owners paid on time or in full (*Figure 5.5*). 30 of the 82 different property entities in the corridor are delinquent on their tax liability. Over half of the delinquent properties are located in blocks 3 and 4 (*Table 5.2*).

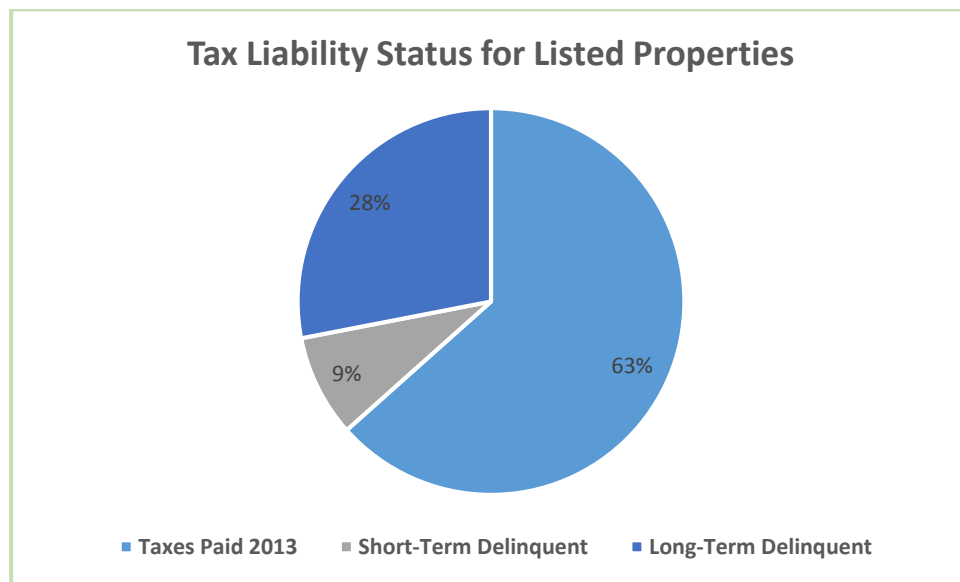


Figure 5.5- Tax status within S. Cedar study area

The 30 properties that have not met their property tax liability are categorized in two ways: long-term and short-term delinquency. Long-term delinquency is defined as those property owners who have missed both summer and winter payment periods in 2013. Short-term delinquency in the study is defined as property owners who have paid at least a portion of their tax liability during 2013. This unrealized revenue divests the area of the ability to make improvements and maintain services that a form based code would require. Additionally, the amount of delinquent properties is a potential impediment to future development as back taxes will present obstacles for buyers and sellers during the sale and transfer of property rights.

Table 5.2--Number of Delinquent Properties by Block							
Block 1 W	Block 1 E	Block 2 W	Block 2 E	Block 3 W	Block 3 E	Block 4 W	Block 4 E
3	0	4	4	5	5	6	3

The 30 properties that have not met their property tax liability are categorized in two ways: long-term and short-term delinquency. Long-term delinquency is defined as those property owners who have missed both summer and winter payment periods in 2013. Short-term delinquency in the study is defined as property owners who have paid at least a portion of their tax liability during 2013. This unrealized revenue divests the area of the ability to make improvements and maintain services that a form based code would require. Additionally, the amount of delinquent properties is a potential impediment to future development as back taxes will present obstacles for buyers and sellers during the sale and transfer of property rights.

Form Based Code Implications for the Future

As previously stated, form based code would likely increase the current building coverage of the area from the current 18% building coverage, to between 40% and 80% coverage. This section demonstrates the effects of higher-density development based off the information gathered from the assessor’s office in conjunction with the build out analysis. *Figure 5.6* illustrates a range of projected property tax revenue by block.

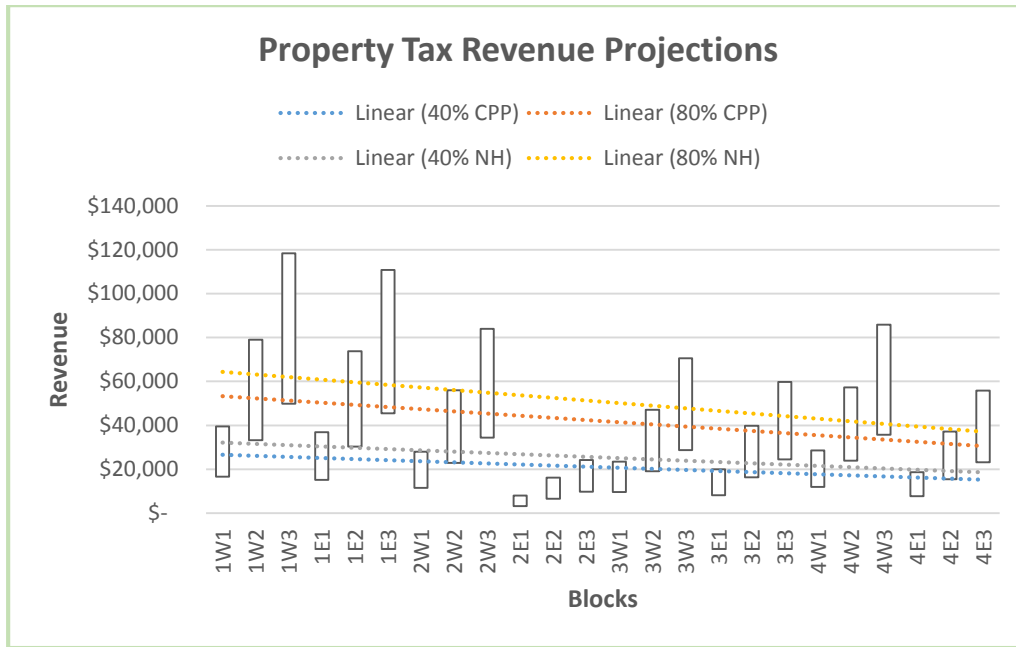


Figure 5.6- Property tax revenue projections within S. Cedar study area

Revenue projections are calculated by inflating the assessed property values of each block and multiplying them against millage rates adopted at the end of 2013. An inflation rate of 2% is used to represent a stable economic climate under normal conditions. The inflated valuations used to calculate future property tax revenue do not assume changes in coverage, losses or additions to property value.

Projected revenue is divided by the size of each corresponding block to derive revenue per unit, in this case, square feet. Projected revenue per unit is factored towards the scenarios given in the build out analysis, where 40% and 80% building coverage is called for. Each of these coverage conditions is paired with either a one, two, or a three-story building scenario. Finally, each development scenario is multiplied by two different millage rates: commercial personal and non-homestead.

A detailed observation of projected property tax revenue is seen in *Figure 5.7*. Projections for block 2 west and 4 west demonstrate a range of revenue based on the various development scenarios shown in the accompanying table. Further explanation of why these two blocks were selected are found in the illustrated plan.

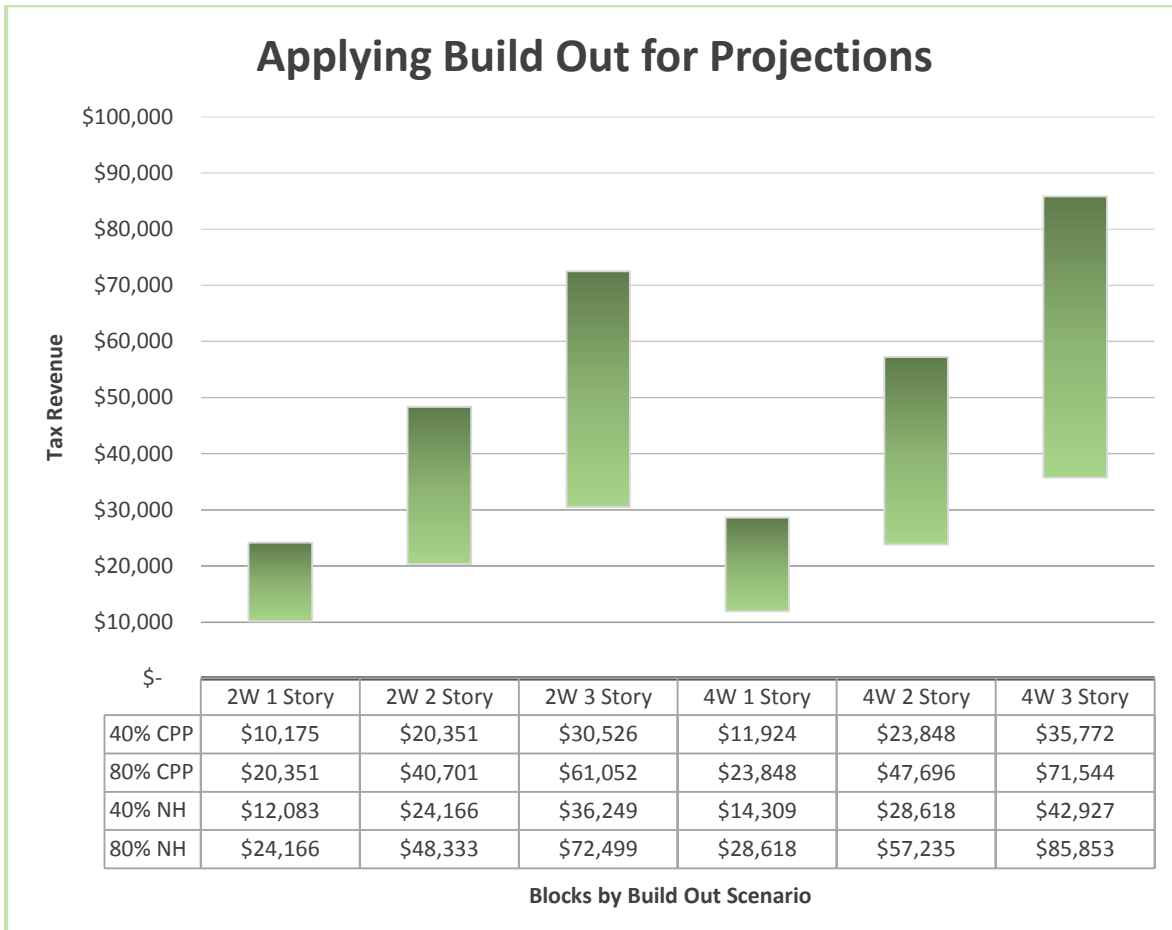


Figure 5.7- Build out tax revenue projections within S. Cedar study area

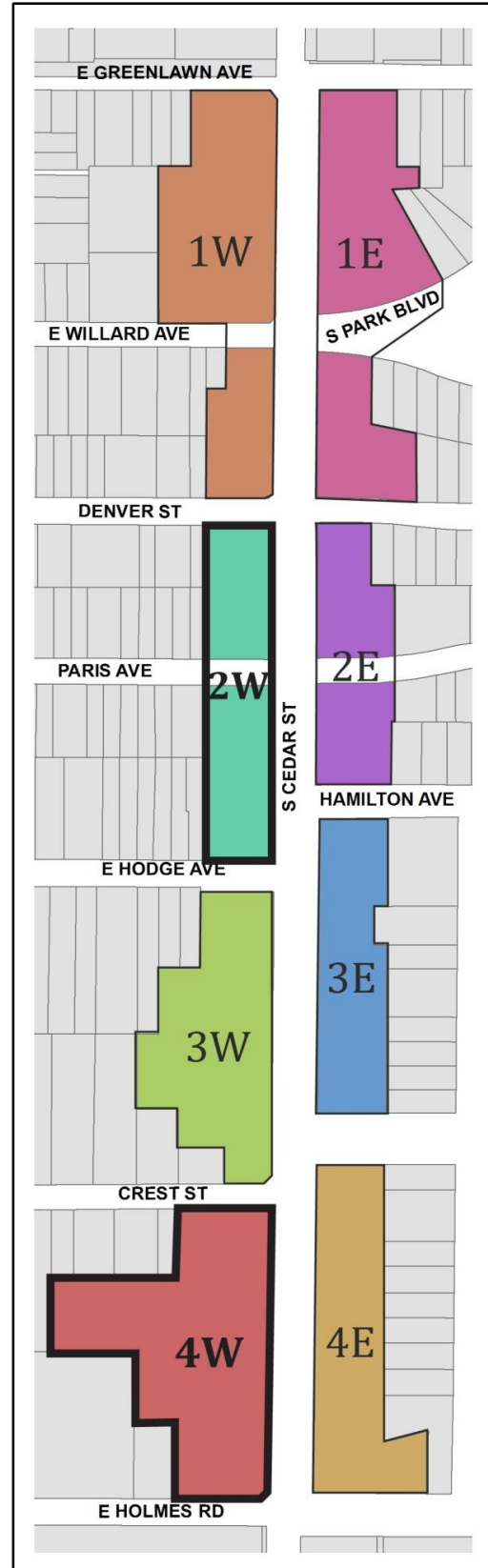
The range of property tax revenue does not appear to be dependent on the tax rates themselves so much as they are dependent on the density of development. This is shown in the three-story development scenario, where greater tax revenue was achieved than what the blocks currently generate, regardless of tax rate or coverage conditions. Reinforcing the impact of high density land use, two-story building scenarios achieved greater revenue than currently generated only in the 80% building coverage condition. One-story building heights are not projected to increase property tax revenue under any coverage condition or tax rate.

ILLUSTRATIVE PLAN

Based on the data collected from the case studies, as well as the build out and financial analyses, the following illustrative plan was created to depict how the introduction of form based code principles along the South Cedar Corridor could affect two blocks within the study area. The goal of the illustrative plan is to create a clearer image of specific ways in which the study area may be impacted by the implementation of a form based code ordinance, which follows principles introduced in the case studies and build out analysis sections.

Blocks 2W and 4W, highlighted in the map to the right, were selected for this depiction of form based code as they are at two different locations along the study area, lending themselves to implementation of different elements of form based code and densities (building coverage). Block 2W, centered on the intersection of Paris Avenue and S. Cedar, is located at the center of the study area, at a less active intersection, lending itself to less density. Block 4W, located at the major intersection of Holmes Road and S. Cedar, is a more active area, lending itself to more dense development.

In addition to depicting building and pavement coverage, additional pedestrian walkways and communal open space were incorporated into the illustrations of potential future build out for these blocks, based on principles included in the FBC matrix (*Table 3.1*). Additional walkways were created to incorporate greater pedestrian accessibility and separation from vehicular traffic. Communal open space was included for potential green space or outdoor commercial activity, like sidewalk cafes.



Block 2W Illustrative Plan

Located in the middle of the study area, block 2W is characterized by low-density, single use structures. Most of the parcels are contain commercial uses, including one automotive sales and services facility (Figures 6.1, 6.2). Currently, these uses, especially the automotive sales, do not lend themselves to form based code principles. Deep setbacks and large parking lots to traverse go against pedestrian oriented form based principles. However, low average parking usage (Figure 2.24) and low building coverage (Table 4.1) make this area prime for development.



(Source: Google maps)

Figure 6.1- Parcels within Block 2W



Figure 6.2- Parcels within Block 2W

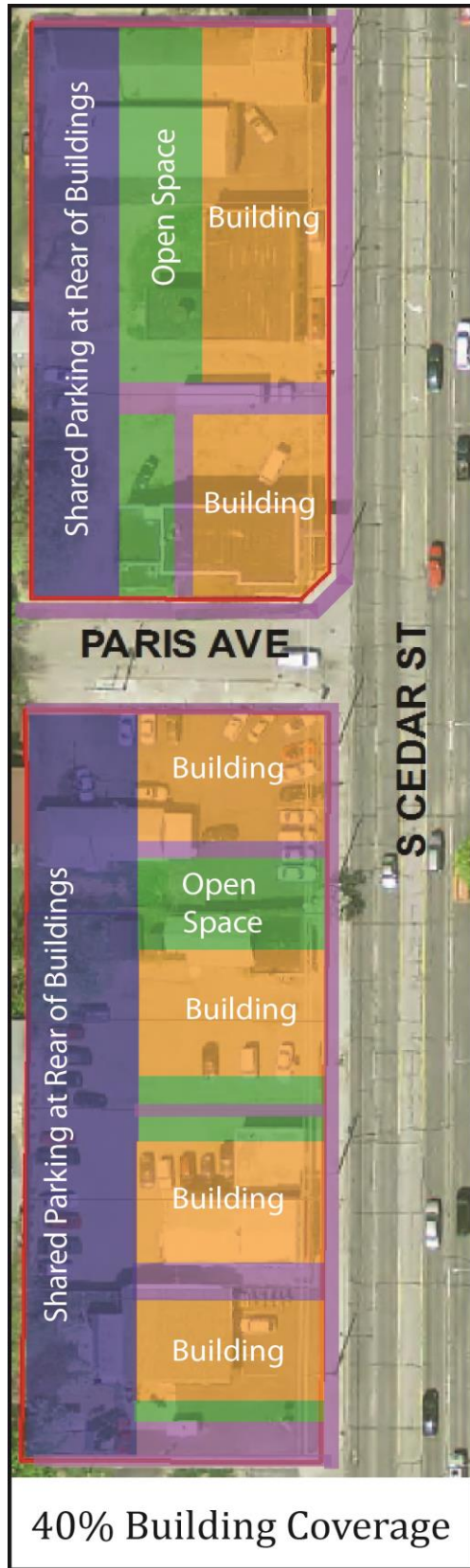
Block 2W- Current Coverage

The illustration to the left depicts the existing coverage of the 2W block of the study area, as of spring 2014. The existing coverage includes only buildings (existing structures) and pavement (including parking lots). In this case pedestrian paths (all sidewalks including those at the street and those within the study area), were only located outside of the parcel boundary and therefore were not counted as part of the coverage. However, they were shown to depict existing pedestrian accessibility in the area. In other cases, pedestrian paths have been included as sidewalks within parcels to improve pedestrian mobility in the area.

At the time of this report, there was 26% building coverage and 61% pavement coverage. While almost 100% of the building coverage are commercial uses, matching context zone 4: general urban use in the FBC matrix (*Table 3.1*), only 26% total building coverage places the block in context zone 2 or 3, rural or urban edge zone. For this reason, the built out potentials of 40% and 80% coverage were created to examine how increasing density to match FBC (context zones 4-6) would impact the area.



- = Building Coverage (26%)
- = Pavement Coverage (61%)
- = Pedestrian Walkway
- = Open Space
- = Block Boundaries



Block 2W- 40% Building Coverage

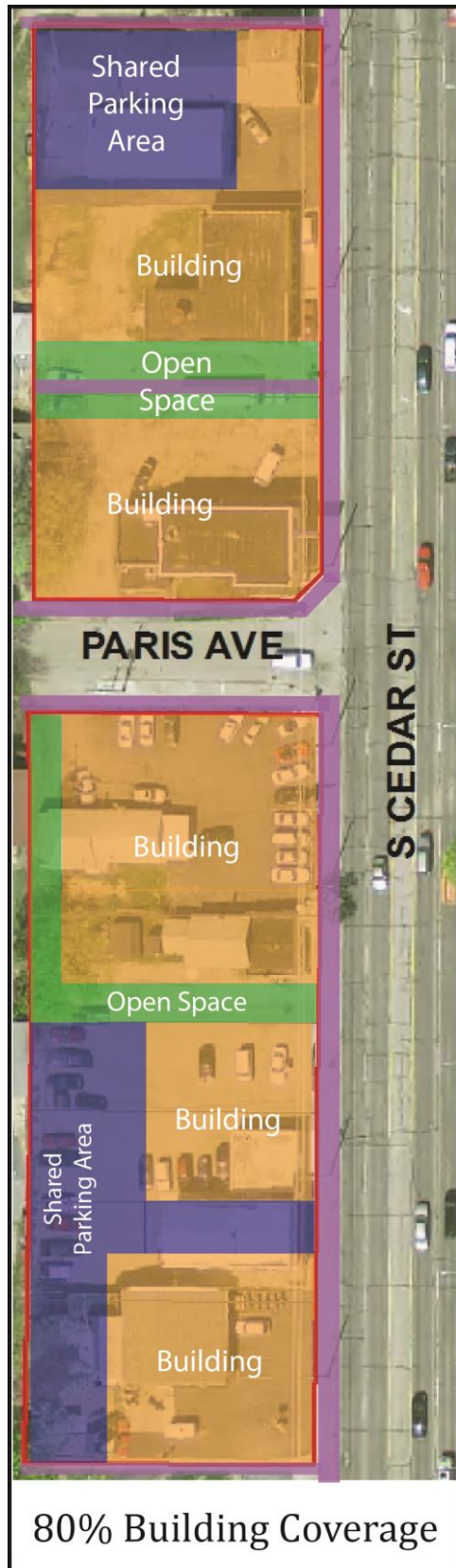
This illustration depicts a potential layout for 40% building coverage in block 2W. In addition to increased building coverage, pavement coverage has been reduced to 29%, allowing for open space and increased pedestrian paths. Open space refers to areas that could be maintained green space, or used for outdoor commercial activity, like sidewalk cafés.

Mobility has been improved by moving buildings up to the edge of the sidewalk. This reduces large setback areas to be traversed by pedestrians. This also makes the coverage in keeping with context zones 4 through 6 of the matrix.

Pavement was decreased by creating shared parking. This has been done in many of the illustrations as it allows for decreased parking areas and is common in FBC. However, all land owners would have to agree to an access easement, which could pose a challenge. In this case, entrances would be located on E. Hodge Avenue and Denver Street (p.75).

Due to the increased building coverage, commercial frontage along the block has also increased. Before, the block's frontage was almost 60% pavement (see Appendix F for calculations), now the entire frontage is made up of buildings or open space, which can be easily accessed by pedestrians.

- = Building Coverage (40%)
- = Pavement Coverage (29%)
- = Pedestrian Walkway (11%)
- = Open Space (20%)
- = Block Boundaries



Block 2W- 80% Building Coverage

A building coverage of 80% would place block 2W in context zone 4: general urban zone in the matrix, and match the 80% maximum imposed for an Urban Mixed-Use Corridor in the Design Lansing Comprehensive Plan (Table 3.2). Based on the ongoing auto-oriented nature of this corridor, this was deemed the greatest density that could be achieved and still maintain a reasonable amount of parking. This illustration allows for 14.5% parking coverage. While the ordinance for Lansing has yet to be created, and parking requirements are still unknown, shared parking and a possible parking structure would still need to be considered at this density to provide for the corridor.

Again, open space and pedestrian paths have been integrated to create spaces at a human scale. Buildings have again been moved up to the edge of the sidewalk and frontages are comprised mainly of buildings to prevent unpleasant stretches of pavement for pedestrians to navigate.

While small open spaces and shared parking are possible, the need for easements and reduced outdoor space may make it more difficult to accomplish form based code principles within the study area.

- = Building Coverage (80%)
- = Pavement Coverage (14.5%)
- = Open Space (5%)
- = Block Boundaries

Block 2W- Comparison of Coverage Potentials



Advantages		
<ul style="list-style-type: none"> Development pattern already exists and little needs to be done to maintain it 	<ul style="list-style-type: none"> Allows for shared parking, in keeping with FBC, without serious accessibility issues Space for diverse mixture of uses/coverages 	<ul style="list-style-type: none"> High coverage/density allows for many economic and design opportunities
Disadvantages		
<ul style="list-style-type: none"> Would be maintaining something that is not thriving or serving the area well 	<ul style="list-style-type: none"> Building not at the highest possible based on Design Lansing or FBC standards, limiting potential change 	<ul style="list-style-type: none"> Development at this coverage would require complicated shared parking agreements and may have complicated parking access

Block 4W Illustrative Plan

Located at the study area’s southern boundary, block 4W is also characterized by low-density, mainly commercial development. However, this block contains a mostly vacant strip mall, with a large parking lot setting the businesses back from the street (*Figure 6.3*). This large setback has the potential to pose serious issues for the implementation of form based code principles, but could possibly be used a design feature and communal space, as shown in the following illustrations of potential coverage.

Block 4W is also located at a very high traffic intersection, opening it up to high exposure. This makes it more appropriate for high-density development (80% coverage) than other portions of the study area.



Figure 6.3- Parcels within Block 4W

(Source: Google maps)

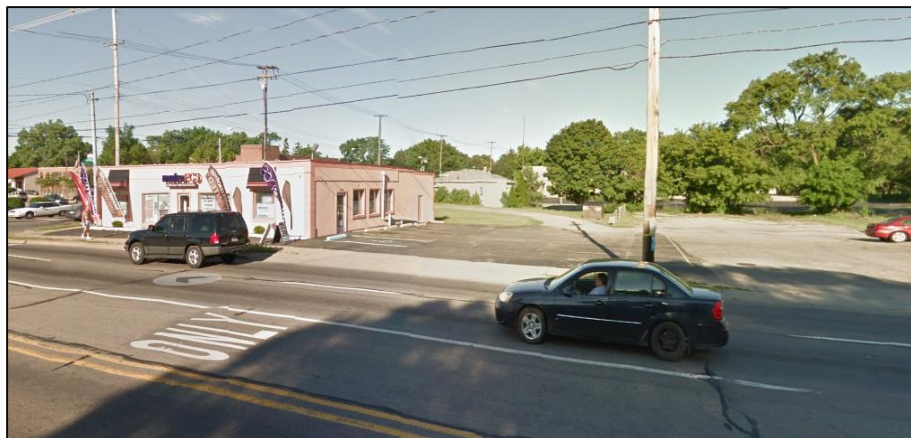







Figure 6.4- Parcels within Block 4W

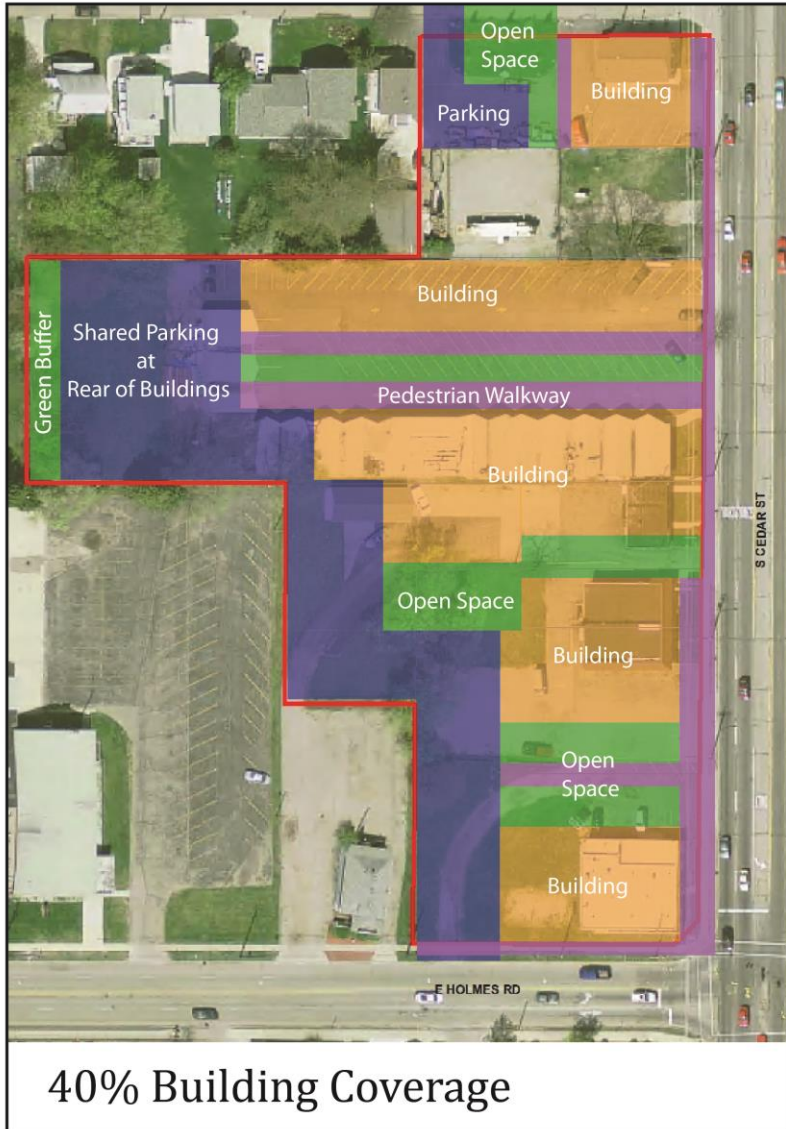
Block 4W - Current Coverage

The illustration to the left depicts the existing coverage of block 4W. Like block 2W, when this analysis was performed, there was only building and pavement (including parking lots) coverage in the area. Once again, the only pedestrian pathways were located outside of the parcel area, so they were only shown to represent pedestrian accessibility, and were not included in the calculations

At that time, building coverage was only 16%, well below the study area's target zones at 40-100% coverage. Setbacks are also much larger than ideal based on the target matrix zones.



-  = Building Coverage (16%)
-  = Pavement Coverage (40%)
-  = Pedestrian Walkway
-  = Open Space
-  = Block Boundaries



- = Building Coverage (40%)
- = Pavement Coverage (26%)
- = Pedestrian Walkway (9%)
- = Communal Open Space (25%)
- = Block Boundaries

Block 4W- 40% Building Coverage

In this illustration, the building coverage was increased from 16% to 40%, and the pavement coverage was decreased from 40% to 26%. The pavement area was once again reduced by creating shared parking at the rear, however to fit in this block, there may be some challenges for accessibility due to the narrow alley created. An access easement would need to be established in this case as well.

In most of the block, the buildings were moved closer to the street to decrease setbacks. However, in the parking lot next to the strip mall, open space and pedestrian paths were created for a possible location for gathering spaces or outdoor commercial activity to take place.

Moving buildings closer to the street and increasing building coverage also increased building frontage along this block. This would improve the character, create a more pedestrian friendly environment and produce a design more in keeping with FBC standards.



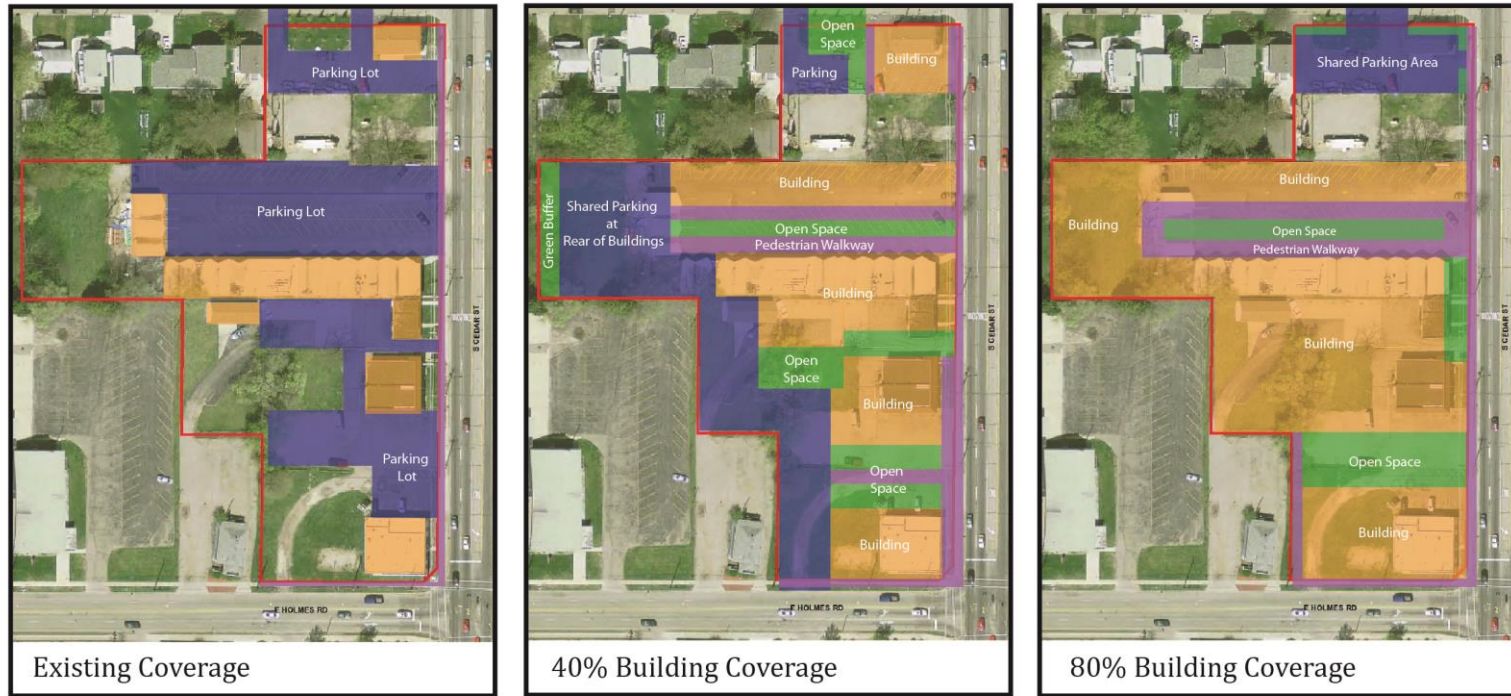
- = Building Coverage (80%)
- = Pavement Coverage (6%)
- = Pedestrian Walkway (8%)
- = Communal Open Space (6%)
- = Block Boundaries

Block 4W- 80% Building Coverage

The final potential coverage illustration for block 4W was created based on 80% building coverage, once again meeting both the standards of the FBC matrix and the regulated density for an Urban Mixed-Use Corridor.

In this block, developing at 80% building coverage would seriously limit other uses. While it only shows one potential layout, the illustration on the left shows that at this high density development, only a small area (6%) could be reserved for pavement/parking, while still being able to repurpose the parking lot of the strip mall for gathering space, which would make the development more inviting to pedestrians.

Block 4W- Comparison of Potential Coverage



Advantages		
<ul style="list-style-type: none"> • Development pattern already exists and little needs to be done to maintain it 	<ul style="list-style-type: none"> • Greater building density that still allows for a diversity of uses • Creates best balance for use opportunities and design opportunities 	<ul style="list-style-type: none"> • Greater building coverage limits parking and therefore auto access to the area
Disadvantages		
<ul style="list-style-type: none"> • Would be maintaining something that is not thriving or serving the area well 	<ul style="list-style-type: none"> • Shared parking difficult to establish and to access 	<ul style="list-style-type: none"> • Building density is so great that it seriously limits other use/coverage options

RECOMMENDATIONS

The South Cedar corridor plays a vital role in servicing both Lansing residents and the many travelers that utilize it for the linkage it provides to other routes in the city and region. Based upon extensive research, data collection, analysis of existing conditions of the study area, and drafting of an illustrative plan, the practicum team has organized recommendations into the following categories:

Short-Term:

Public Transit

Capital Area Transit Authority (CATA) provides bus service along S. Cedar via Route 5. This route receives some of the largest rider totals in comparison to other routes along key corridors of the city, and has experienced a stable increase in ridership over the past five years.

Recommendation: CATA conducts a ridership study to better ascertain travel patterns and commuter usage of Route 5: Obtaining a better understanding of these ridership trends may help in better determining the role S. Cedar plays in serving the corridor and surrounding neighborhoods. Gaining further insight into riders' reasons for using Route 5, along with travel destinations (whether to the office, grocery store, park, library, etc.) may be useful in future land use decisions along S. Cedar.

Walkability

The S. Cedar study area features crosswalks on each northern and southern end, with a half-mile stretch between the two. Sidewalk coverage is in fair to good shape, but is interrupted by continuous driveway access points to commercial properties residing along S. Cedar. Multiple cross streets connecting to the neighborhoods east and west of S. Cedar also interrupt the pedestrian's flow and create potential accidents with residential traffic entering and leaving the neighborhoods.

Recommendation: Perform walkability and alternative transportation infrastructure survey to better understand the potential for pedestrian accessibility: This survey should attempt to assess the need for additional crosswalks, pavement markings, sidewalk

modification, and the possible addition of bike lanes along the corridor. Additions to alternative transportation infrastructure should be considered an opportunity to link the S. Cedar corridor with the existing trail infrastructure, such as the Lansing River Trail.

Recommendation: *Initiate discussions with Michigan Department of Transportation (MDOT) to establish framework for form-based code implementation options:* As a state trunkline, S. Cedar has more restrictions than other streets in Lansing. In order to model other form based code street characteristics, the City should begin collaborating with MDOT to determine what types of opportunities or limitations exist in implementing form based code principles to parcels along the trunk line. Extending sidewalks, adding bike lanes or pedestrian buffer zones, and adjusting building setbacks and street frontages are all techniques that would demand a close partnership and open communication with MDOT.

Financing

Though data suggests that the area between Hamilton Avenue and Holmes Road more closely matches form based code principles, it is more economically distressed. Currently, there is less tax revenue coming from this area, based on delinquency in payment and assessed property values.

Recommendation: *In order to tackle vacancy issues contributing to this distress, promote programs that incentivize investment, while preserving any existing form based code features:* Programs such as the Michigan Economic Development Corporation's (MEDC) Redevelopment Ready Communities; Lansing Economic Development Corporation's (LEDC) Corridor Improvement Program; provide opportunities for local businesses and stakeholders to pursue.

To implement form-based code and help both business owners and homeowners adjust to new regulations, many communities allocate Community Development Block Grant funds to put toward simple facade or landscape improvement programs. Some of these programs are currently in Lansing but need to be expanded upon and applied to further city districts such as the S. Cedar study area. Some communities also take a larger approach by implementing Tax Increment Financing (TIF) Zones, which could incorporate many programs.

Recommendation: *Consider establishing a corridor improvement authority, specifically for the S. Cedar Corridor, comprised of business owners and other local stakeholders.* This authority would offer potential for greater community participation and further oversight to ensure that future actions along the corridor reflect the goals of Design

Lansing and area demands. Together, the corridor improvement authority and the City can pursue federal and state level grants along with other funding opportunities that abate the cost of improvements along the corridor.

Long-Term:

Build Out Potential

The build out analysis conducted on the study area illustrates the need to increase building coverage along South Cedar in order to meet FBC standards and align future development with Design Lansing. To increase density and achieve the desired building coverage, Lansing should prioritize infill development on underutilized properties.

Recommendation: *Draft development plan that further analyzes parking coverage along S. Cedar and parcels that should be prioritized for potential infill in the future:* The parking inventory within this report revealed a surplus of parking along this portion of S. Cedar. The underutilized, excess space should be seen as an opportunity and a priority for infill. This development plan should also consider reorganizing parking spaces to better match existing form based codes, which include a higher proportion of shared rear and side parking versus parking that consumes building frontage.

Recommendation: *Collaborate with Ingham County Land Bank in securing parcels over time to ensure future development aligns with form based code while preserving existing features:* A partnership with the Ingham County Land Bank could help to quickly acquire property and then sell at a subsidized rate. Alternatively, the land bank could hold properties to preserve and maintain green space along the corridor. Securing these properties ensures no further development takes place in the parcel that would conflict with potential form based code applications. Such methods may also help in stabilizing S. Cedar by gradually forming consistent patterns in design and scale along the future activity corridor.

Summary

Through the course of the practicum team's research, the South Cedar Corridor has proven its significant value as a key corridor for the city of Lansing and surrounding region. Design Lansing's proposed designation as an active, inviting "urban mixed-use corridor" provides a hopeful vision for future development along S. Cedar that embraces the importance of this pathway in the City's present and future. However, along with the recommendations detailed above, the practicum teams suggests assessing implementation of form based code in

another corridor discussed in Design Lansing before S. Cedar. Form based code implementation takes time to develop, particularly in what is essentially a traditionally automobile-based commercial corridor. Such efforts must start small, with programs and outreach that highlight development opportunities in the area while providing resources for financial incentives and technical support to property and business owners. These efforts must first take shape to help establish a common vision for the corridor, so that groundwork may be laid for form based code development that could one day transform S. Cedar to a revitalized activity corridor.

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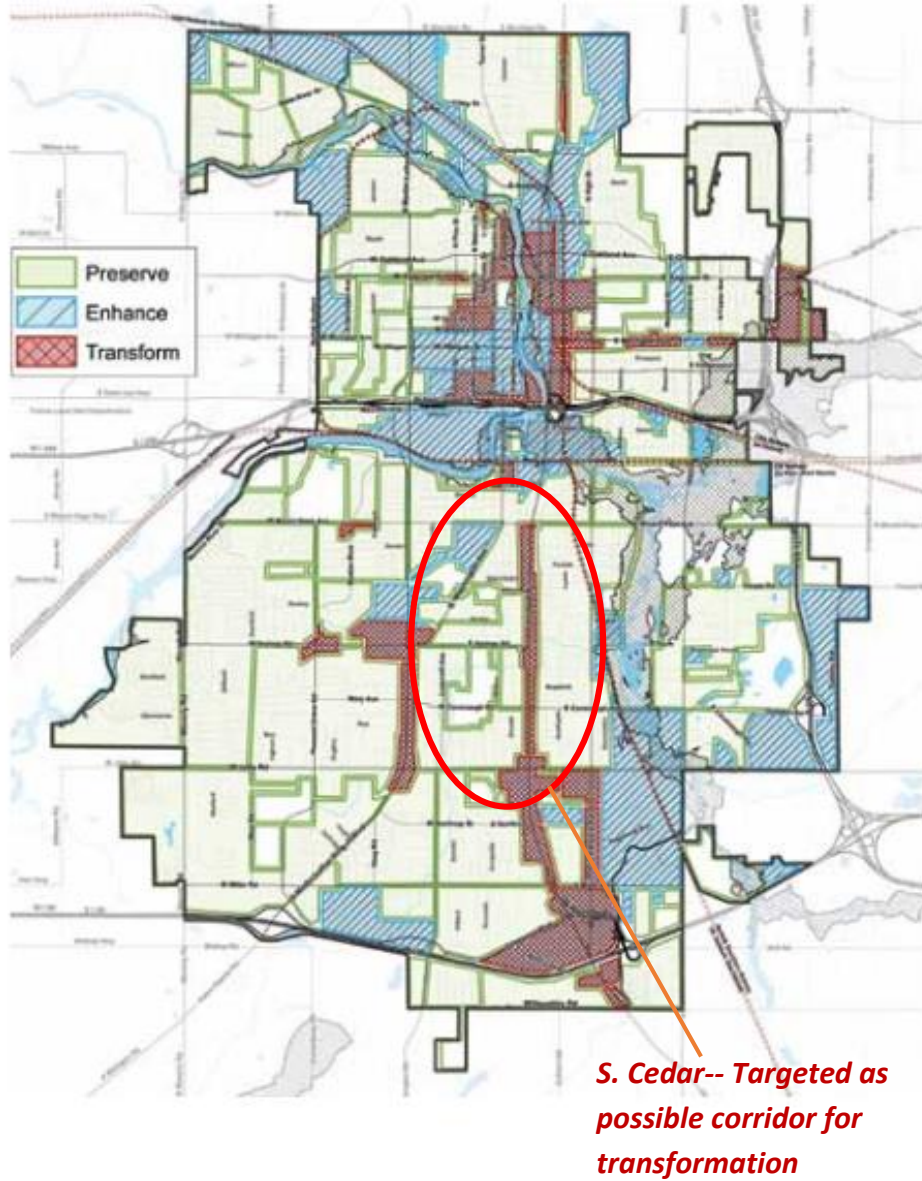
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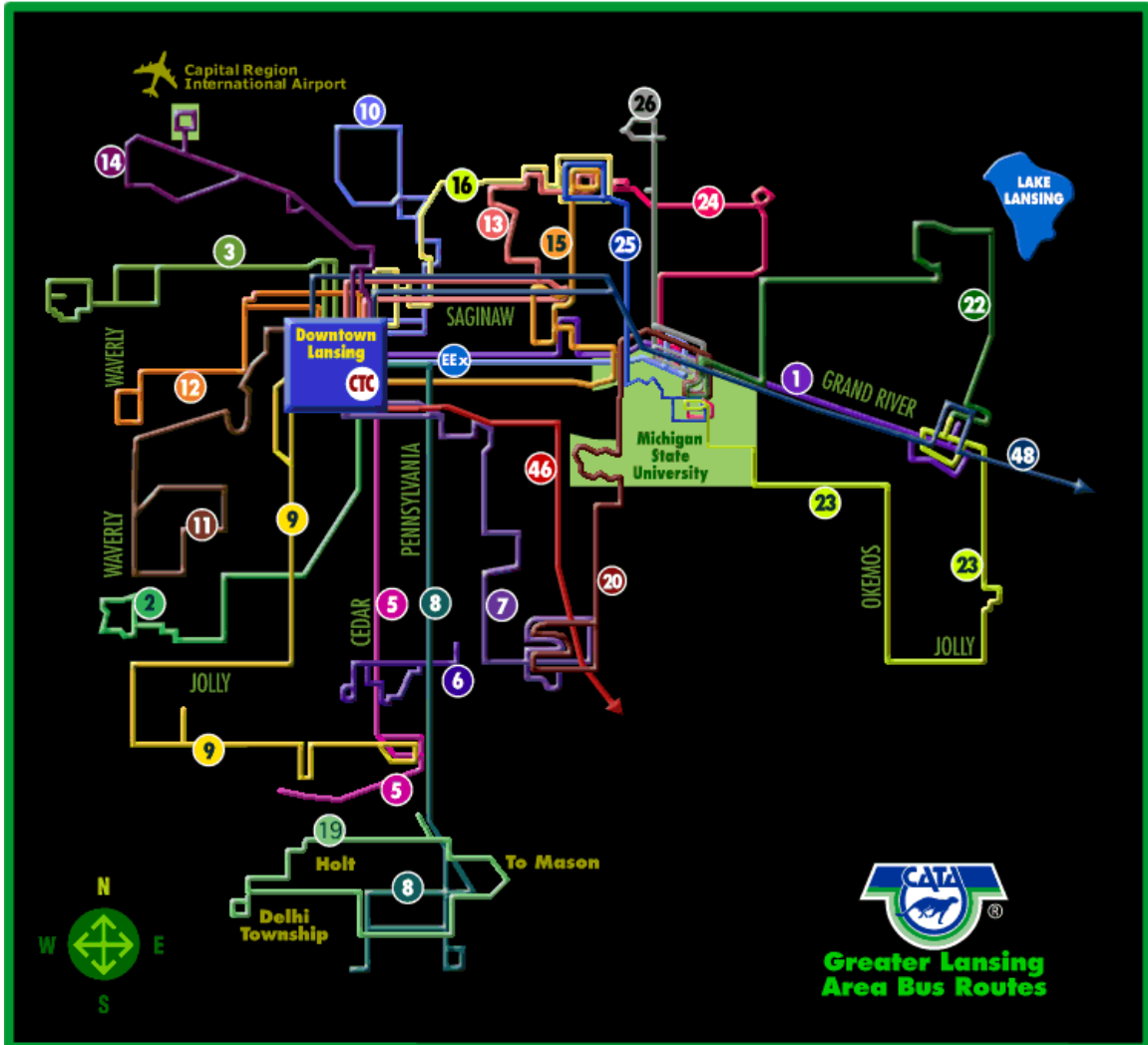
APPENDICES

APPENDIX A: Citizen Planning Priorities Map



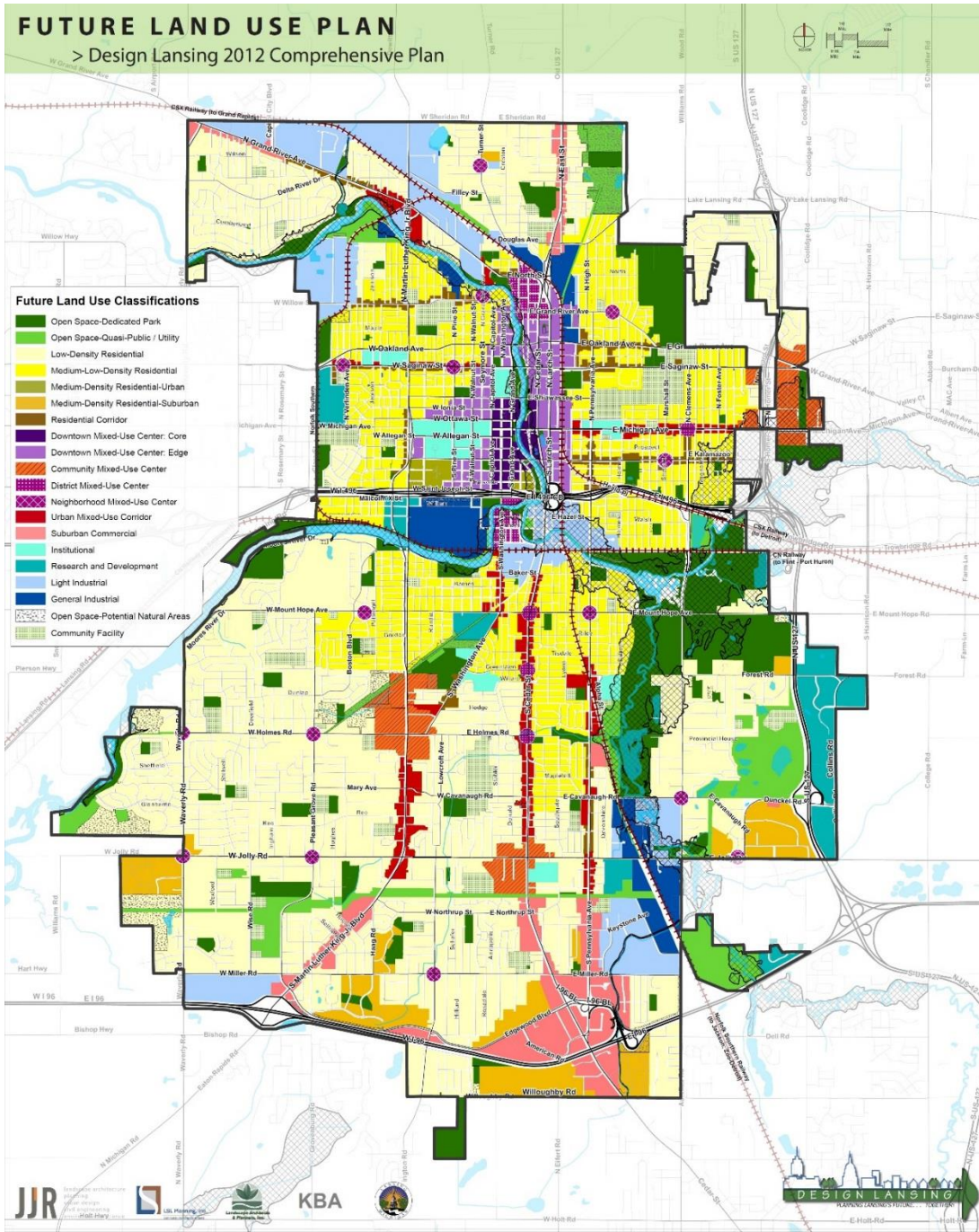
Source: Design Lansing Comprehensive Plan

APPENDIX B: Map of CATA Bus Routes Compared
Map of CATA bus route compared (Routes 5, 7, 8, 9)



Source: Capital Area Transit Authority

APPENDIX C: Future Land Use Plan Map



Source: Design Lansing

APPENDIX D: Parking Data

	Maximum Parking									
Block 4W	127									
Block 3W	9									
Block 2W	42									
Block 1W	59									
Block 1E	39									
Block 2E	31									
Block 3E	31									
Block 4E	23									
		Date	2/13/2014	2/18/2014	2/20/2014	2/23/2014	2/24/2014	3/3/2014	3/7/2014	
		Maximum Parking	11pm	2PM	2PM	12pm	9am	4pm	5pm	
Block 4W	127		7	5	9	3	12	7	4	
Block 3W	9		4	1	4	3	2	2	6	
Block 2W	42		2	3	7	4	4	3	0	
Block 1W	59		15	17	11	12	18	12	17	
Block 1E	39		10	9	9	7	5	0	6	
Block 2E	31		2	1	0	3	1	3	2	
Block 3E	31		29	18	20	25	17	14	19	
Block 4E	23		6	3	9	10	2	4	8	
		Date	3/12/2014	3/18/2014	3/22/2014					
		Maximum Parking	10am	12pm	2pm					
Block 4W	127		4	2	5					
Block 3W	9		7	2	9					
Block 2W	42		4	4	2					
Block 1W	59		15	12	10					
Block 1E	39		4	6	5					
Block 2E	31		2	0	2					
Block 3E	31		27	18	16					
Block 4E	23		6	4	7					

APPENDIX E: Master List of Property in S. Cedar Study Area

Block Designation	Address	Business Name	Type	Owner	Zoning	Assessed Value	Final Taxable Value	Land Value	Land Improvements	Size	Taxes Paid Winter 2013	Taxes Paid Summer 2013	Parcel Type	Status
4E	3333 Cedar	Music Manor	2 Story Commercial - Retail	POTTER COMMERCIAL PROPERTES L L C	201 Commercial	\$132,400	\$118,775	\$93,600	0	0.69 Acres	\$1,035.30	\$7,496.82	commercial	delinquent
4W	3330 S. Cedar	Boost Mobile/Metro PCS Auth. Ret./Mobile Tec	1 Story Commercial - Retail	DFH L L C	201 Commercial	\$89,100	\$89,100	\$73,600	\$5,640	.45 Acres	\$754.02	\$5,623.79	commercial	
4W	3330 S. Cedar			DEVIN & BIANCA INC	251 Commercial Personal	\$4,600	\$4,600	0	0	0	\$38.90	\$234.55	personal	
4W	3320 S. Cedar	Golden Burma	1 Story Commercial - Restaurant	GOLDEN BURMA GROCERY	251 Commercial Personal	\$3,000	\$3,000	0	0	0	\$26.13	\$162.15	personal	delinquent
4W	3320 S. Cedar			ANNIE SHOES	251 Commercial Personal	\$5,500	\$5,500	0	0	0	\$47.92	\$305.70	personal	delinquent
4W	3320 S. Cedar			AMIR IMAGES	251 Commercial Personal	\$0	\$0	0	0	0	0	0	personal	
4W	3320 S. Cedar			RAINSBERGER JAMES G & GARY L	201 Commercial	\$54,100	\$54,100	\$51,000	\$1,098	0.38 Acres	\$471.54	\$3,619.52	commercial	delinquent
4W	3318 S. Cedar			UR STYLE	251 Commercial Personal	\$0	\$0	0	0	0	0	0	personal	
4W	3318 S. Cedar			RAINSBERGER JAMES G & GARY L	201 Commercial	\$49,800	\$49,156	\$25,200	\$220	.16 Acres	\$428.46	\$3,288.75	commercial	delinquent
4E	3315 S. Cedar	A.R.E. - Advanced Truck Caps	1 Story Commercial - Retail	ADVANCE TRUCK CAPS	251 Commercial Personal	\$2,100	\$2,100	0	0	0	\$17.74	\$107.06	personal	
4E	3315 S. Cedar			LOVEALL WILLIAM H	201 Commercial	\$43,600	\$35,878	\$56,400	\$0	.47 Acres	\$303.59	\$2,264.49	commercial	
4E	3315 S. Cedar			MARR ALAN W & BAYS TAMATHA	401 Residential	\$29,000	\$29,000	\$22,400	\$318	.47 Acres	\$337.90	\$1,305.35	homestead	
4W	3312 S. Cedar	Steve's Barber Shop	1 Story Commercial	STEVES BARBER SHOP	251 Commercial Personal	\$0	\$0	0	0	0	0	0	personal	
4W	3312 S. Cedar			TOTH DENNIS S	201 Commercial	\$46,400	\$46,400	\$44,800	\$3,309	.47 Acres	\$392.65	\$2,928.64	commercial	
4W	3308 S. Cedar #8	Star Boy Cocky Promotions	1 Story Commercial	STAR BOY	251 Commercial Personal	\$0	\$0	0	0	0	0	0	personal	
4W	3308 S. Cedar #6	THE COMPUTER GURU	1 Story Commercial - Retail	THE COMPUTER GURU	251 Commercial Personal	\$0	\$0	0	0	0	0	0	personal	
4W	3308 S. Cedar #12	SIN 2 SKIN	1 Story Commercial	SIN 2 SKIN	251 Commercial Personal	\$0	\$0	0	0	0	0	0	personal	
4W	3308 S. Cedar	THE HAIR SHOPPE AND TANNING	1 Story Commercial	THE HAIR SHOPPE AND TANNING	251 Commercial Personal	\$10,700	\$10,700	0	0	0	\$93.24	\$594.76	personal	delinquent
4W	3308 S. Cedar	QUINNEY'S	1 Story Commercial	QUINNEY'S	251 Commercial Personal	\$0	\$0	0	0	0	0	0	personal	
4W	3308 S. Cedar	BLESS IT ARE WE		BLESS IT ARE WE	251 Commercial Personal	\$1,400	\$1,400	0	0	0	\$12.16	\$77.78	personal	delinquent

4W	3308 S. Cedar	PRAB INVESTMENTS L L C		PRAB INVESTMENTS L L C	201 Commercial	\$169,900	\$169,900	\$128,600	\$22,209	1.25 Acres	\$1,437.81	\$10,723.74	commercial	
4W	3308 S. Cedar #9	Aerus ElectroLux-Floor Care	1 Story Commercial - Retail	LUX OF LANSING	251 Commercial Personal	\$700	\$700	0	0	0	\$5.89	\$35.65	personal	
4W	3308 S. Cedar #6	B-Unique Designz - Custum T's	1 Story Commercial - Retail	B UNIQUE DESIGNS	251 Commercial Personal	0	0	0	0	0	0	0	personal	
4E	3301 S. Cedar			LOVEALL WILLIAM H	201 Commercial	\$44,200	\$41,463	\$73,800	\$0	0.55 Acres	\$350.86	\$2,617.02	commercial	
4E	3213 S. Cedar			MSHAHWAR RAYMOND S &	202 Commercial Vacant	\$23,100	\$23,100	\$43,000	\$2,989	.24 Acres	\$407.33	\$1,545.46	commercial	delinquent
4E	3205 S. Cedar			MSHAHWAR RAYMOND S & HADDAD LINDA	201 Commercial	\$49,700	\$49,700	\$49,200	\$2,516	.31 Acres	\$639.20	\$3,325.15	commercial	delinquent
4W	3200 S. Cedar	C + J Tax Service (MOVED)	1 Story Commercial - Retail	PETERS JOSEPH & BETTY	201 Commercial	\$61,500	\$61,500	\$41,200	\$12,033	.29 Acres	\$520.45	\$3,881.74	commercial	
3W	3152 S. Cedar	Res - 1 story	1 Story Residential	CARTWRIGHT SARA K	401 Residential	\$21,600	\$21,600	\$5,200	\$0	.14 Acres	\$275.26	\$972.23	homestead	
3W	3146 S. Cedar	res- 2 story	2 Story Residential	Ingham County Treasurer	401 Residential	\$24,700	\$24,700	\$3,800	\$312	.15 Acres	\$310.55	\$4,059.50	homestead	delinquent
3E	3145 S. Cedar			SPEEDWAY SUPERAMERICA L L C	201 Commercial	\$48,100	\$47,648	\$95,600	\$611	.52 Acres	\$403.21	\$3,007.39	commercial	
3W	3142 S. Cedar			LOVEALL WILLIAM H	201 Commercial	\$15,200	\$11,244	\$13,000	\$0	0.15 Acres	\$95.14	\$709.65	commercial	
3W	3140 S. Cedar			LOVEALL WILLIAM H	202 Commercial Vacant	\$6,500	\$6,167	\$13,000	\$0	.15 Acres	\$52.17	\$389.21	commercial	
3W	3130 S. Cedar	House to Home	1 Story Commercial - Retail	CJCB LLC	201 Commercial	\$189,200	\$189,200	\$110,200	\$2,640	.73 Acres	\$1,601.16	\$11,941.91	commercial	
3W	3130 S. Cedar			DENNIS DISTRIBUTING	251 Commercial Personal	\$1,100	\$1,100	\$0	\$0	\$0	\$9.28	\$56.05	personal	
3E	3133 S. Cedar	Top Gun Car Wash	1 Story Commercial - Retail	GL WASH LLC	251 Commercial Personal	\$5,800	\$5,800	0	0	0	\$50.52	\$322.37	personal	delinquent
3E	3133 S. Cedar			GL WASH LLC	201 Commercial	\$57,000	\$57,000	\$71,400	\$5,569	.36 Acres	\$496.83	\$3,813.57	commercial	delinquent
3E	3121 S. Cedar			D & D AUTOMOTIVE	251 Commercial Personal	\$1,400	\$1,400	\$0	\$0	\$0	\$12.16	\$77.78	personal	delinquent
3E	3121 S. Cedar			MID-BRANCH L L C	201 Commercial	\$66,900	\$66,900	\$68,800	\$7,779	.42 Acres	\$566.13	\$4,349.25	commercial	
3W	3120 S. Cedar			KHODADOST FATOLLAH	401 Residential	\$23,100	\$23,100	\$10,400	\$0	.19 Acres	\$296.61	\$1,545.46	homestead	delinquent
3W	3116 S. Cedar			HOLBERG ROBERT H & DONNA J	401 Residential	\$20,100	\$20,100	\$4,800	\$77	\$0	\$270.46	\$1,344.76	homestead	delinquent
3E	3109 S. Cedar	Athena's Diner	1 Story Commercial - Restaurant	HARLESS DENVER C & MARY A	201 Commercial	\$152,900	\$152,900	\$77,200	\$6,321	.47 Acres	\$1,332.77	\$9,940.25	commercial	delinquent
3E	3109 S. Cedar			JONS COUNTRY BURGERS	251 Commercial Personal	\$9,600	\$9,600	\$0	\$0	\$0	\$83.65	\$533.59	personal	delinquent
3E	3109 S. Cedar			Athena's	251 Commercial Personal	\$0	\$0	\$0	\$0	\$0	\$0.00	\$0.00	personal	

3W	3104 S. Cedar	G + G Tax and Accounting (MOVED)	1 Story Commercial - Retail	G & G TAX SERVICE	251 Commercial Personal	\$4,100	\$4,100	\$0	\$0	\$0	\$35.71	\$227.85	personal	delinquent
3W	3104 S. Cedar			GLK PROPERTIES INC	201 Commercial	\$99,600	\$99,600	\$79,600	\$6,923	.49 Acres	\$868.16	\$6,663.72	commercial	delinquent
2W	3030 S. Cedar	Hunt's Hog Shop	1 Story Commercial - Retail	HUNTS PERFORMANCE CYCLE, INC	251 Commercial Personal	\$1,300	1,300	0	0	0	\$11.29	\$66.25	personal	delinquent
2W	3030 S. Cedar			HUNT MARK R	201 Commercial	\$56,400	\$56,400	\$41,200	\$1,335	.23 Acres	\$491.60	\$3,773.40	commercial	delinquent
2W	3022 S. Cedar	The Elegant Pooch	1 Story Commercial - Retail	The Elegant Pooch	251 Commercial Personal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	personal	
2W	3022 S. Cedar			WAG N TAILS LTD	201 Commercial	\$46,100	\$46,100	\$25,600	\$515	.14 Acres	\$390.12	\$2,909.70	commercial	
2E	3021 S. Cedar	Capital Auto Sales	1 Story Commercial - Retail	CAPITOL AUTO SALES	251 Commercial Personal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	personal	
2E	3021 S. Cedar			LINDERMAN VERNON D	201 Commercial	\$46,700	\$46,700	\$54,000	2,726	.41 Acres	\$407.05	\$3,124.44	commercial	delinquent
2E	3021 S. Cedar	Five Start Automotive		FIVE START AUTOMOTIVE, LLC	251 Commercial Personal	\$14,900	\$14,900	\$0	\$0	\$0	\$129.84	\$828.23	personal	delinquent
2E	3021 S. Cedar			LANSING AUTO TRIM	990 - REFERENCE ONLY	\$0	\$0	\$0	\$0	\$0	0	\$0.00	N/A	delinquent
2W	3020 S. Cedar			WAG N TAILS LTD	201 Commercial	\$26,400	\$22,709	\$23,200	\$1,113	.12 Acres	\$192.16	\$1,433.30	commercial	
2W	3010 S. Cedar	St. Luke's Antiques	1 Story Commercial - Retail	SCHAFFER LUKE	201 Commercial	\$29,000	\$29,000	\$26,800	\$0	.14 Acres	\$252.76	\$1,940.22	commercial	delinquent
2E	3001 S. Cedar			RLD BEEMER INC	201 Commercial	\$56,600	\$47,828	\$52,800	\$0	.26 Acres	\$416.87	\$3,199.89	commercial	delinquent
2W	3000 S. Cedar	Dave's Corvettes	1 Story Commercial - Retail	DAVES CORVETTE SALES	251 Commercial Personal	\$900	\$900	\$0	\$0	\$0	\$7.58	\$45.86	personal	
2W	3000 S. Cedar			DAVES CORVETTE SALES	201 Commercial	\$42,800	\$42,800	\$40,600	\$4,438	.28 Acres	\$362.17	\$2,701.42	commercial	
2W	2922 S. Cedar	Jackpot Party Store	1 Story Commercial - Retail	JACKPOT PARTY STORE	251 Commercial Personal	\$4,000	\$4,000	\$0	\$0	\$0	\$34.84	\$203.96	personal	
2W	2922 S. Cedar			FAWAZ IMAD M & JOSEPHINE	201 Commercial	\$79,800	\$79,800	\$46,000	\$2,691	.28 Acres	\$695.56	\$5,036.78	commercial	delinquent
2E	2919 S. Cedar	Family Dollar #1508	1 Story Commercial - Retail	Family Dollar Stores #01508	251 Commercial Personal	\$23,600	\$23,600	\$0	\$0	\$0	\$199.69	\$1,203.50	personal	
2E	2910 S. Cedar			PEARSE RICHARD S	201 commercial	\$52,700	\$52,700	\$47,000	\$307	.27 Acres	\$459.34	\$3,525.86	delinquent	
2E	2901 S. Cedar	Lansing Imports	1 Story Commercial - Retail	LANSING IMPORT	251 Commercial Personal	\$2,200	\$2,200	\$0	\$0	\$0	\$19.15	\$122.25	personal	
2E	2901 S. Cedar			SAWYERS JERRY D & JUDITH K	201 Commercial	\$59,100	\$59,100	\$45,400	\$3,355	.26 Acres	\$500.14	\$3,730.23	commercial	
2W	2902 S. Cedar	RC Displays	1 Story Industrial	RC Displays Corporation	351 Industrial Personal	\$800	\$800	\$0	\$0	\$0	\$635.00	\$4,874.07	commercial	
2W	2902 S. Cedar			R C DISPLAYS	301 Industrial	\$76,900	\$72,851	\$43,800	\$13,209	.25 Acres	\$6.73	\$31.12	personal	
1W	2832 S. Cedar			Blue Raven	251 Commercial Personal	\$1,000	\$1,000	\$0	\$0	\$0	\$8.69	\$55.56	personal	
1W	2832 S. Cedar			VLAHAKIS JOHN J	201 Commercial	\$48,900	\$38,800	\$34,200	\$2,461	.19 Acres	\$328.34	\$2,448.93	commercial	

1E	2827 S. Cedar	Vacant Building	1 Story Commercial - Retail	KEENA E THOMAS JR & MCGLONE KATHY A	201 Commercial	\$135,600	\$135,600	\$132,600	\$4,240	.98 Acres	\$1,181.97	\$9,072.30	commercial	
1W	2820 S. Cedar	Forever Perfect Tattoo	1 Story Commercial - Retail	FOREVER PURRFECT TATTO	251 Commercial Personal	\$1,100	\$1,100	\$0	\$0	\$0	\$9.56	\$56.05	personal	
1W	2820 S. Cedar			VLAKAKIS JOHN J	201 Commercial	\$56,000	\$56,000	\$24,600	\$3,773	.19 Acres	\$473.91	\$3,534.59	commercial	
1W	2800 S. Cedar	Perron Auto Sales	1 Story Commercial - Retail	B & V PROPERTIES L L C	201 Commercial	\$55,000	\$49,540	\$73,800	\$2,991	.45 Acres	\$419.23	\$3,126.83	commercial	
1W	2800 S. Cedar			CARR'S RENTAL INC.	251 Commercial Personal	\$7,600	\$7,600	\$0	\$0	\$0	\$66.22	\$422.41	personal	delinquent
1W	2800 S. Cedar			BEAL STREET AUTO SALES	990 - REFERENCE ONLY	\$0	\$0	\$0	\$0	\$0	\$0.00	\$0.00	N/A	delinquent
1W	2702 S. Cedar	Kirby Vacuums	1 Story Commercial - Retail	Willard Properties LLC	201 Commercial	\$324,000	\$324,000	\$120,000	\$8,100	.88 Acres	\$2,741.95	\$20,450.25	commercial	
1W	2702 S. Cedar			HERITAGE SYSTEMS, INC	251 Commercial Personal	\$5,400	\$5,400	\$0	\$0	\$0	\$45.67	\$275.35	personal	
1W	2702 S. Cedar	Auto Tech	1 Story Commercial - Retail	AUTO-TECH	251 Commercial Personal	\$11,000	\$11,000	\$0	\$0	\$0	\$95.86	\$611.44	personal	
1E	2701 S. Cedar	Rite Aid	1 Story Commercial - Retail	Rite Aid of Michigan INC	251 Commercial Personal	\$30,700	\$30,700	\$0	\$0	\$0	\$259.78	\$1,565.61	personal	
1E	2701 S. Cedar			Rite Aid of Michigan INC	201 Commercial	\$466,900	\$466,900	\$308,400	\$22,027	1.77 Acres	\$3,951.29	\$29,469.83	commercial	
1W	2600 S. Cedar	Chebli Jewelers	1 Story Commercial - Retail	CHEBLI JEWELERS, L.L.C.	251 Commercial Personal	\$900	\$900	\$0	\$0	\$0	\$7.81	\$49.99	personal	delinquent
1W	2600 S. Cedar	QD - S. Cedar #1	1 Story Commercial - Retail	QUALITY DAIRY CO #22	251 Commercial Personal	\$35,500	\$35,500	\$0	\$0	\$0	\$1,186.47	\$8,849.12	commercial	
1W	2600 S. Cedar			QUALITY DAIRY CO	201 Commercial	\$140,200	\$140,200	\$89,800	\$4,318	.57 Acres	\$300.41	\$1,810.41	personal	

APPENDIX F: Tax Assessment Calculations

Millage Rates 2013	
principle residence or ag restriction	52.9461
total millage non-homestead	70.8723
total millage industrial personal	49.9461
total millage commercial personal	58.8723

Blocks	4W	4E	3W	3E	2W	2E	1W	1E
Total Assessed Values 2013	\$496,700	\$324,100	\$405,200	\$341,700	\$417,100	\$203,100	\$686,600	\$633,200
X 1.02 Average Inflation Rate	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
New Assessed Value	\$506,634	\$330,582	\$413,304	\$348,534	\$425,442	\$207,162	\$700,332	\$645,864
New Assessed Value/sq ft	\$3.40	\$3.41	\$3.79	\$4.62	\$5.35	\$3.29	\$5.39	\$5.46

Blocks	4W	4E	3W	3E	2W	2E	1W	1E
Inflated Assessed	\$506,634	\$330,582	\$413,304	\$348,534	\$425,442	\$207,162	\$700,332	\$645,864
Millage Rate	0.07087	0.07087	0.07087	0.07087	0.07087	0.07087	0.07087	0.07087
Projected Rev (no coverage change)	35906.316	23429.106	29291.805	24701.406	30152.053	14682.047	49634.13	45773.867
SQ FT	149,050.64	96,859.86	108,920.42	75,409.40	79,494.37	63,006.03	129,889.30	118,315.78
PROJECTED REV	\$35,906.32	\$23,429.11	\$29,291.81	\$24,701.41	\$30,152.05	\$14,682.00	\$49,634.14	\$45,773.87
REV/SQ FT	\$0.24	\$0.24	\$0.27	\$0.33	\$0.38	\$0.23	\$0.38	\$0.39
Inflated Assessed	\$506,634	\$330,582	\$413,304	\$348,534	\$425,442	\$207,162	\$700,332	\$645,864
Millage Rate	0.05887	0.05887	0.05887	0.05887	0.05887	0.05887	0.05887	0.05887
Projected Rev (no coverage change)	29826.708	19462.122	24332.157	20518.998	25046.749	12196.103	41230.15	38023.499
SQ FT	149,050.64	96,859.86	108,920.42	75,409.40	79,494.37	63,006.03	129,889.30	118,315.78
PROJECTED REV	\$29,826.71	\$19,462.12	\$24,332.16	\$20,519.00	\$25,046.75	\$12,196.10	\$41,230.16	\$38,023.50
REV/SQ FT	\$0.20	\$0.20	\$0.22	\$0.27	\$0.32	\$0.19	\$0.32	\$0.32

Projected Tax Revenue- Non Homestead	4W 1Story	4W 2 Story	4W 3 Story	4E 1 Story	4E 2 Story	4E 3 Story	3W 1 Story	3W 2 Story	3W 3 Story
SQ FT	149,050.64	149,050.64	149,050.64	96,859.86	96,859.86	96,859.86	108,920.42	108,920.42	108,920.42
Build Out 40%	0.4	0.8	1.2	0.4	0.8	1.2	0.4	0.8	1.2
REV/SQ FT	0.24	0.24	0.24	0.24	0.24	0.24	0.27	0.27	0.27
PROJECTED REV	14308.861	28617.72	42926.58	9298.546	18597.09	27895.63	11763.40	23526.81	35290.216
	3E 1 Story	3E 2 Story	3E 3 Story	2W 1 Story	2W 2 Story	2W 3 Story	2E 1 Story	2E 2 Story	2E 3 Story
SQ FT	75,409.40	75,409.40	75,409.40	79,494.37	79,494.37	79,494.37	63,006.03	63,006.03	63,006.03
Build Out 40%	0.4	0.8	1.2	0.4	0.8	1.2	0.4	0.8	1.2
REV/SQ FT	0.33	0.33	0.33	0.38	0.38	0.38	0.23	0.23	0.23
PROJECTED REV	9954.04	19908.08	29862.12	12083.14	24166.28	36249.43	5796.554	11593.10	17389.664
	1W 1 Story	1W 2 Story	1W 3 Story	1E 1 Story	1E 2 Story	1E 3 Story			
SQ FT	129,889.30	129,889.30	129,889.30	118,315.78	118,315.78	118,315.78			
Build Out 40%	0.4	0.8	1.2	0.4	0.8	1.2			
REV/SQ FT	0.38	0.38	0.38	0.39	0.39	0.39			
PROJECTED REV	19743.17	39486.34	59229.52	18457.26	36914.52	55371.78			

Projected Tax Revenue- Non Homestead	4W 1 Story	4W 2 Story	4W 3 Story	4E 1 Story	4E 2 Story	4E 3 Story	3W 1 Story	3W 2 Story	3W 3 Story
SQ FT	149,050.64	149,050.64	149,050.64	96,859.86	96,859.86	96,859.86	108,920.42	108,920.42	108,920.42
Build Out 80%	0.8	1.6	2.4	0.8	1.6	2.4	0.8	1.6	2.4
REV/SQ FT	0.24	0.24	0.24	0.24	0.24	0.24	0.27	0.27	0.27
PROJECTED REV	28617.722	57235.44	85853.16	18597.09	37194.18	55791.27	23526.81	47053.62	70580.432
	3E 1 Story	3E 2 Story	3E 3 Story	2W 1 Story	2W 2 Story	2W 3 Story	2E 1 Story	2E 2 Story	2E 3 STORY
SQ FT	75,409.40	75,409.40	75,409.40	79,494.37	79,494.37	79,494.37	63,006.03	63,006.03	63,006.03
Build Out 80%	0.8	1.6	2.4	0.8	1.6	2.4	0.8	1.6	2.4
REV/SQ FT	0.33	0.33	0.33	0.38	0.38	0.38	0.23	0.23	0.23
PROJECTED REV	19908.08	39816.16	59724.24	24166.28	48332.57	72498.86	11593.10	23186.21	34779.328
	1W 1 Story	1W 2 Story	1W 3 Story	1E 1 Story	1E 2 Story	1E 3 Story			
SQ FT	129,889.30	129,889.30	129,889.30	118,315.78	118,315.78	118,315.78			
Build Out 80%	0.8	1.6	2.4	0.8	1.6	2.4			
REV/SQ FT	0.38	0.38	0.38	0.39	0.39	0.39			
PROJECTED REV	39486.34	78972.69	118459.04	36914.52	73829.04	110743.57			

Projected Tax Revenue- Commercial Personal	4W 1 Story	4W 2 Story	4W 3 Story	4E 1 Story	4E 2 Story	4E 3 Story	3W 1 Story	3W 2 Story	3W 3 Story
SQ FT	149,050.64	149,050.64	149,050.64	96,859.86	96,859.86	96,859.86	108,920.42	108,920.42	108,920.42
Build Out 40%	0.4	0.8	1.2	0.4	0.8	1.2	0.4	0.8	1.2
REV/SQ FT	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.22	0.22
PROJECTED REV	11,924.05	23848.10	35772.15	7748.78	15497.57	23246.36	9584.99	19169.99	28754.99
	3E 1 Story	3E 2 Story	3E 3 Story	2W 1 Story	2W 2 Story	2W 3 Story	2E 1 Story	2E 2 Story	2E 3 Story
SQ FT	75,409.40	75,409.40	75,409.40	79,494.37	79,494.37	79,494.37	63,006.03	63,006.03	63,006.03
Build Out 40%	0.4	0.8	1.2	0.4	0.8	1.2	0.4	0.8	1.2
REV/SQ FT	0.27	0.27	0.27	0.32	0.32	0.32	0.19	0.19	0.19
PROJECTED REV	8144.21	16288.43	24432.64	10175.27	20350.55	30525.83	4788.45	9576.91	14365.37
	1W 1 Story	1W 2 Story	1W 3 Story	1E 1 Story	1E 2 Story	1E 3 Story			
SQ FT	129,889.30	129,889.30	129,889.30	118,315.78	118,315.78	118,315.78			
Build Out 40%	0.4	0.8	1.2	0.4	0.8	1.2			
REV/SQ FT	0.32	0.32	0.32	0.32	0.32	0.32			
PROJECTED REV	16625.83	33251.66	49,877.49	15144.41	30288.84	45433.25			

Projected Tax Revenue- Commercial Personal	4W 1 Story	4W 2 Story	4W 3 Story	4E 1 Story	4E 2 Story	4E 3 Story	3W 1 Story	3W 2 Story	3W 3 Story
SQ FT	149,050.64	149,050.64	149,050.64	96,859.86	96,859.86	96,859.86	108,920.42	108,920.42	108,920.42
Build Out 80%	0.8	1.6	2.4	0.8	1.6	2.4	0.8	1.6	2.4
REV/SQ FT	0.2	0.2	0.2	0.2	0.2	0.2	0.22	0.22	0.22
PROJECTED REV	23848.10	47696.20	71544.30	15497.57	30995.15	46492.73	19169.99	38339.98	57509.981
	3E 1 Story	3E 2 Story	3E 3 Story	2W 1 Story	2W 2 Story	2W 3 Story	2E 1 Story	2E 2 Story	2E 3 Story
SQ FT	75,409.40	75,409.40	75,409.40	79,494.37	79,494.37	79,494.37	63,006.03	63,006.03	63,006.03
Build Out 80%	0.8	1.6	2.4	0.8	1.6	2.4	0.8	1.6	2.4
REV/SQ FT	0.27	0.27	0.27	0.32	0.32	0.32	0.19	0.19	0.19
PROJECTED REV	16288.43	32576.86	48865.29	20350.55	40701.11	61051.67	9576.91	19153.83	28730.749
	1W 1 Story	1W 2 Story	1W 3 Story	1E 1 Story	1E 2 Story	1E 3 Story			
SQ FT	129,889.30	129,889.30	129,889.30	118,315.78	118,315.78	118,315.78			
Build Out 80%	0.8	1.6	2.4	0.8	1.6	2.4			
REV/SQ FT	0.32	0.32	0.32	0.32	0.32	0.32			
PROJECTED REV	33251.66	66503.32	99754.98	30288.83	60577.67	90866.51			

APPENDIX G: Illustrative Plan Data

Illustrative Plan Data	Paris Block		Holmes Block	
	Measure	Percent	Measure	Percent
Block Data, Complete Block				
Block Area	79,494	-	149,051	-
Existing Building Coverage	20,580	25.89%	29,252	19.63%
40% Building Coverage	31,798	40.00%	59,620	40.00%
80% Building Coverage	63,596	80.00%	119,241	80.00%
Existing Pavement Coverage (Including Parking)	48,662	61.21%	60,299	40.46%
40% Building Coverage	23,053	29.00%	7,606	5.10%
80% Building Coverage	11,527	14.50%	1,755	1.18%
Existing Average Front (Cedar St.) Setback	58	N/A	48	N/A
40% Building Coverage	38	N/A	38	N/A
80% Building Coverage	38	N/A	38	N/A
Existing Total Frontage (Cedar St.)**	610	-	575	-
Building	260	42.62%	233	40.54%
40% Building Coverage	59,621	75.00%	115,917	77.77%
80% Building Coverage	70,909	89.20%	83,468	56.00%
Pavement/ Parking	350	57.38%	286	49.77%
40% Building Coverage	9,937	12.50%	12,416	8.33%
80% Building Coverage	5,565	7.00%	32,791	22.00%

Block Data, By Parcel*				
Parcel 1				
Total Parcel Area	9,843	-	19,117	-
Current Building Coverage	2,395	24.33%	3,360	17.58%
40% Building Coverage Area	3,937	N/A	7,647	N/A
80% Building Coverage Area	7,874	N/A	2,688	N/A
Front Setback	79	N/A	52	N/A
Total Parcel Frontage	75	-	113	-
Frontage, Commercial	38	50.67%	70	62.22%
Frontage, Pavement/Parking	37	49.33%	43	38.04%
Sidewalk Width	10	N/A	10	N/A
Parcel 2				
Total Parcel Area	5,926	-	16,379	-
Current Building Coverage	1,811	30.56%	1,602	9.78%
40% Building Coverage Area	2,370	N/A	6,552	N/A
80% Building Coverage Area	4,741	N/A	13,103	N/A
Front Setback	50	N/A	47	N/A
Total Parcel Frontage	45	-	91	-
Frontage, Commercial	30	66.67%	26	28.19%
Frontage, Pavement/Parking	15	50.00%	65	71.81%
Sidewalk Width	10	N/A	10	N/A

Parcel 3				
Total Parcel Area	5,422	-	6,564	-
Current Building Coverage	812	14.97%	1,799	27.41%
40% Building Coverage Area	2,169	N/A	2,626	N/A
80% Building Coverage Area	4,338	N/A	5,251	N/A
Front Setback	48	N/A	47	N/A
Total Parcel Frontage	41	-	37	-
Frontage, Commercial	26	63.41%	28	76.71%
Frontage, Pavement/Parking	15	36.59%	9	24.14%
Sidewalk Width	10	N/A	10	N/A
Parcel 4				
Total Parcel Area	5,411	-	21,251	-
Current Building Coverage	0	0.00%	2,184	10.28%
40% Building Coverage Area	2,164	N/A	8,501	N/A
80% Building Coverage Area	4,329	N/A	17,001	N/A
Front Setback	N/A	N/A	58	N/A
Total Parcel Frontage	41	-	55	-
Frontage, Commercial	0	0.00%	40	72.91%
Frontage, Pavement/Parking	41	100.00%	15	27.09%
Sidewalk Width	10	N/A	10	N/A

Parcel 5				
Total Parcel Area	6,415	-	60,457	-
Current Building Coverage	1,715	26.73%	13,006	21.51%
40% Building Coverage Area	2,566	N/A	24,183	N/A
80% Building Coverage Area	5,132	N/A	48,366	N/A
Front Setback	47	N/A	58	N/A
Total Parcel Frontage	49	-	140	-
Frontage, Commercial	29	59.18%	38	27.37%
Frontage, Pavement/Parking	20	40.82%	101	72.35%
Sidewalk Width	10	N/A	10	N/A
Parcel 6				
Total Parcel Area	12,225	-	12,642	-
Current Building Coverage	1,515	12.39%	0	N/A
40% Building Coverage Area	4,890	N/A	5,057	N/A
80% Building Coverage Area	9,780	N/A	10,113	N/A
Front Setback	97	N/A	N/A	N/A
Total Parcel Frontage	92	-	70	-
Frontage, Commercial	0	0.00%	0	0.00%
Frontage, Pavement/Parking	92	100.00%	14	20.29%
Sidewalk Width	10	N/A	10	N/A

Parcel 7				
Total Parcel Area	12,124	-	12,640	-
Current Building Coverage	2,698	22.25%	1,300	10.29%
40% Building Coverage Area	4,850	N/A	5,056	N/A
80% Building Coverage Area	9,700	N/A	10,112	N/A
Front Setback	44	N/A	23	N/A
Total Parcel Frontage	98	-	69	-
Frontage, Commercial	45	45.92%	31	44.64%
Frontage, Pavement/Parking	53	54.08%	38	55.36%
Sidewalk Width	10	N/A	10	N/A
Parcel 8				
Total Parcel Area	11,473	-	x	x
Current Building Coverage	2,953	25.74%	x	x
40% Building Coverage Area	4,589	N/A	x	x
80% Building Coverage Area	9,178	N/A	x	x
Front Setback	52	N/A	x	x
Total Parcel Frontage	89	-		
Frontage, Commercial	58	65.17%	x	x
Frontage, Pavement/Parking	31	34.83%	x	x
Sidewalk Width	10	N/A	x	x

Parcel 9				
Total Parcel Area	10,655	-	x	x
Current Building Coverage	6,681	62.70%	x	x
40% Building Coverage Area	4,262	N/A	x	x
80% Building Coverage Area	8,524	N/A	x	x
Front Setback	44	N/A	x	x
Total Parcel Frontage	80	-		
Frontage, Commercial	34	42.50%	x	x
Frontage, Pavement/Parking	46	57.50%	x	x
Sidewalk Width	10	N/A	x	x

* Parcels numbered starting from southern most parcel

** In block 4W, the parcel containing the Board of Water and Light Utility Station was not included as developable area

APPENDIX H: Existing Business and Vacancy Inventory

Study Area Building Inventory- January 26, 2014							
Street # (S Cedar)	Building on Site	Suite #	Business Name	Status	Attached or Detached	Type	Levels
2600	yes		Quality Dairy	occupied	attached	commercial	1
2600	yes	B/C	Cedar's Jewelry	occupied	attached	commercial	1
2701	yes		Rite Aid	occupied	detached	commercial	1
2702	yes	A		vacant	detached	commercial	1
2702	yes	B	Auto Tech	occupied	attached	commercial	1
2702	yes	C	Kirby Vaccuums	occupied	attached	commercial	1
2702	yes	D	Heritage Corporation	occupied	attached	commercial	1
2800	yes		Perron Auto Sales	occupied	detached	commercial	1
2820	yes	A	Forever Purrfect Tattoo	occupied	attached	commercial	1
2820	yes	B		vacant	attached	commercial	1
2820	yes	C		vacant	attached	commercial	1
2827	yes			vacant	detached	commercial	1
2832	yes			vacant	detached	commercial	1
2901	yes		Lansing Imports	occupied	detached	commercial	1
2902	yes		RC Displays	occupied	detached	industrial	1
2910	yes			vacant	detached	commercial	1
2919	yes		Family Dollar	occupied	detached	commercial	1
2922	yes		Jackpot Party Store	occupied	detached	commercial	2
3000	yes		Dave's Corvettes	occupied	detached	commercial	1
3001	yes		South Cedar Motel	occupied	detached	commercial	1

3010	yes		St. Luke's Antiques	occupied	detached	comercial	1
3015							
3020							
3021	yes		Five Star Automotive	occupied	detached	commercial	1
3022	yes		The Elegant Pooch	occupied	detached	commercial	1
3030	yes		Hunt's Hog Shop	occupied	detached	commercial	1
3104	yes			vacant	attached	office	1
3104	yes			vacant	attached	office	1
3109	yes		Athena's Diner	occupied	detached	commercial	1
3116	yes			occupied	detached	residential	2
3120	yes			occupied	detached	residential	2
3121	yes		Fast Finance Auto	occupied	detached	commercial	1
3130	yes		House to Home	occupied	detached	commercial	1
3133	yes		Top Gun Car Wash	occupied	detached	commercial	1
3140	no			vacant	lot		
3142	no			vacant	lot		
3145	no			vacant	lot		
3146	yes			occupied	detached	residential	2
3152	yes			occupied	detached	residential	1
3200	yes			vacant	detached	commercial	1
3205	yes		forward firworks	occupied	detached	commercial	2
3301	no		A.R.E.-Advanced Truck Caps	occupied	n/a	commercial	1
3308	yes	1		vacant	attached	commercial	1
3308	yes	2		vacant	attached	commercial	1
3308	yes	3	Nain Myammar	occupied	attached	commercial	1
3308	yes	4		vacant	attached	commercial	1
3308	yes	5		vacant	attached	commercial	1
3308	yes	6	B-Unique Designz- Custom T's	occupied	attached	commercial	1
3308	yes	7	Star Boy Cocky Promotions	occupied	attached	commercial	1

3308	yes	8/9		vacant	attached	commercial	1
3308	yes	10/11	Aerus Electrolux- Floor Care	occupied	attached	commercial	1
3308	yes	12/13	Sin 2 Skin	occupied	attached	commercial	1
3312	yes		Steve's Barber Shop	occupied	attached	commercial	1
3314	yes		Hydroworld	occupied	attached	commercial	1
3315	yes		A.R.E.-Advanced Truck Caps	occupied	detached	commercial	1
3318	yes		UR Style Salon	occupied	attached	commercial	1
3320	yes		Golden Burma: Asian Grocery and Gifts	occupied	attached	commercial	1
3330	yes		Cell Tec Wireless	occupied	detached	commercial	1
3333	yes		Music Manor	occupied	detached	commercial	2

APPENDIX I: Map of Existing Business Types



* (Based on current zoning)