

Downtown Lee's Summit Parking Study

As part of the Downtown Lee's Summit Master Plan, a downtown parking and traffic study was completed by TranSystems Corporation in November 2003. The parking analysis completed in 2003 has been used to evaluate parking supply, especially shared-use parking, for development and redevelopment within the downtown core in accordance with Unified Development Ordinance, Article 12, Section 12.090. The aforementioned parking analysis was also the basis for several recommendations in the Downtown Parking Strategy presented to the City Council in 2004 and 2005 to meet long-term development forecasts by EDAW for the vision of Downtown Lee's Summit.

Since 2003, downtown has undergone a street revitalization project. In addition to street improvements, several other major development and/or redevelopment projects have been completed:

- Northwest corner of 3rd Street and Green Street – “City Hall”
- Southwest corner of 2nd Street and Green Street – “City Hall Parking Garage”
- Southeast corner of 3rd Street and Douglas Street – “Hartley Block”
- Northeast corner of 3rd Street and Douglas Street – “Darron Building”
- Between 3rd Street and 2nd Street/Between W. Main Street and Market Street – “Old City Hall”
- Between 4th Street and 3rd Street/Between W. Main Street and Market Street – “Market Project”
- Between 3rd Street and 2nd Street/Between Market Street and Jefferson Street – “Post Office”

As a result of the street improvements and these development and/or redevelopment projects, the parking inventory and parking demands have changed.

This study, an update to the downtown parking analysis conducted in 2003, includes a comprehensive inventory and assessment of existing parking conditions in Downtown Lee's Summit. While the parking inventory from 2003 was periodically updated within the last seven years to reflect changes in capacity caused by street improvements and demand generated by development and redevelopment projects, confidence in this information as a continued basis for evaluation has been diminished. This study may or may not provide confirmation to the 2003 study and downtown parking model (as updated), and the long-term recommendations for the vision of downtown. This study will serve as a more accurate, revised basis for future development and redevelopment review and continued discussion for long-term parking needs.

Survey Procedures

The area for parking study was generally bounded by 2nd Street on the north, Green Street on the east, 4th Street on the south and Jefferson Street on the west. This is the same boundary used in the downtown parking study, dated November 2003. A parking inventory of all on-street and off-street spaces in the study area was conducted in September 2010. The inventory, time period and method, were very similar to that conducted in November 2002 for the study completed in 2003, except that vehicle turnover rate was not recorded. Vehicle turnover rate was analyzed in 2003 to consider timed on-street parking restrictions. Since a two-hour on-street parking restriction has been established, and there has been no indication a problem exists regarding the time period, another vehicle turnover rate analysis was unnecessary. The parking inventory segregated public parking and private parking. The numbers of marked off-street spaces were counted, not unmarked spaces, to determine the total number of existing off-street spaces available. The total number of existing on-street spaces was determined by counting marked on-street parking where marked spaces exist and in unmarked areas an estimate was made based on the typical size of a parallel parking space.

Parking inventories for on-street and off-street parking were conducted on September 29th and 30th, 2010. Data regarding number of occupied spaces was collected in one-hour intervals from 8:00 A.M. to 7:00 P.M. This data was then compiled by block and summarized.

A land use assessment was conducted to obtain information on the size and type of businesses within the study area. The number of residential units was also collected.

Existing Parking Supply and Demand

The existing parking supply was inventoried as on-street parking and off-street parking by block. The parking study area by block is illustrated on *Figure 1*. *Figure 2* and *Figure 3* summarize the parking supplies by block for on-street and off-street parking within the study area. For on-street parking, the number of available spaces is located on each block face. The off-street parking inventory was segregated between public and private parking spaces. *Table 1* summarizes the existing parking supply. For reference, *Table 2* summarizes the parking supply available in 2003. These tables reflect the number of spaces available at the time the inventory was completed. More information on the existing parking supply can be found in *Appendix A*.

The existing parking demand was inventoried on typical weekdays in September 2010. Inventories were collected during mid-week under favorable conditions to avoid unusual fluctuations that may be attributed to poor weather, special events, holidays, and weekend activities. The measured peak demand, or the highest number of parking spaces occupied on a given weekday, is summarized on *Figure 4*. *Table 1* and *Table 2* also summarize the parking supply and demand. The parking demand, surveyed on multiple days, generally did not change more than 2% overall, 5% by block, or 2% by category (east/west of railroad, public/private, on-street/off-street) from day to day.

**TABLE 1
EXISTING (2010) PARKING SUPPLY AND DEMAND**

Location	On-Street	Off-Street	Total
East of the Railroad			
Demand	153	502	655
Supply	242	899	1,141
West of the Railroad			
Demand	75	259	334
Supply	154	560	714
Total			
<i>Demand/Supply</i>	<i>228/396</i>	<i>761/1,459</i>	<i>989/1,855</i>
<i>Percent Occupied</i>	<i>58 percent</i>	<i>52 percent</i>	<i>53 percent</i>

The overall on-street parking supply has increased to the east and west of the railroad tracks since 2003. Likewise, the overall off-street parking supply has increased to the east and west of the railroad tracks since 2003. The total number of public parking spaces has increased in the last seven years. The downtown parking demand has remained relatively consistent since 2003 (did not exceed or fail expectations related to development and redevelopment growth that shifted demand from the west side of the railroad to the east side of the railroad), with any notable change likely caused by change in existing businesses/vacancies, development (i.e. Hartley's, Darron Bldg., etc.), relocation/consolidation of City Hall, or daily and seasonal data collections (e.g. 2003 data was collected in November, compared to September).

**TABLE 2
2003 PARKING SUPPLY AND DEMAND**

Location	On-Street	Off-Street	Total
East of the Railroad			
Demand	150	428	578
Supply	225	750	975
West of the Railroad			
Demand	104	301	405
Supply	129	494	623
Total			
<i>Demand/Supply</i>	<i>254/354</i>	<i>729/1,244</i>	<i>983/1,598</i>
<i>Percent Occupied</i>	<i>72 percent</i>	<i>59 percent</i>	<i>62 percent</i>

Parking Analysis

Occupancy rates show the percentage of occupied spaces per block. The combined occupancy rates for on and off-street parking are shown on *Figure 5*. An efficient occupancy rate varies by type of business that the parking serves. For office employee parking, an occupancy rate from 90 to 95 percent is often acceptable. Customer-oriented businesses, such as retail stores and restaurants, typically desire a lower rate, from 80 to 85 percent. Given the limited quantity of parking and large number of small parking lots, an occupancy rate of 75 percent is desirable in the central business district. An acceptable occupancy rate of 75 percent was similarly targeted in the 2003 parking study. In *Figure 5*, red highlights indicate blocks that are at or approaching the desired capacity.

A few blocks in the study area were found to exceed desirable conditions in 2003, but none exceed desirable conditions in 2010. One block, Block 3, was near undesirable conditions (73% occupancy); however, parking on adjacent blocks is sufficiently available to address infrequent peaking, albeit less convenient. Overall, existing parking in the study area appears to be more than adequate for typical weekday conditions.

Future Conditions

A parking model was developed to assess the peak demands of current land use and future developments/redevelopments in the study area based on national trends for parking rates taking into consideration hourly and seasonal fluctuations. The base model assumes no vacancy; such assumption can explain some discrepancy between the model and measured occupancy. Furthermore, the model is based on peak occupancy considering seasonal fluctuations throughout the year, where-as actual occupancy was surveyed during one particular month. This model was calibrated to the existing conditions documented earlier in the report and future development forecast were derived using the Downtown Master Plan created by EDAW, originally documented in 2003. Upon calibration, the modeled month of August closely matches the measured occupancy.

The long-term parking demands and surplus (or deficit) projected in 2003 are less now that certain developments have occurred that either aligned with or prohibit realization of the long-term development plan. For example, the Senior Center was not located within the downtown fringe as projected. In addition, several improvements and redevelopment projects have increased the parking supply. (*Note: Projects that have been approved by Council, but un-built were not considered in the model or measured inventory, but vacancies that were not reflected in the measured inventory were accounted for as occupied land use in the model*). Much of the parking shortage discussed in the Downtown Parking Strategies of 2004 and 2005 were related to the redevelopment of Block 3, which has not yet occurred and such redevelopment will have parking shortage without the addition of parking structures as recommended in the 2003 plan.

Projected long-term parking conditions have been illustrated on *Figure 6* and summarized below in *Table 3*. The peak parking demand identified in *Table 3* is the same as described in 2003 for the

downtown core, considering development in the downtown core has either not occurred yet as predicted or as the case for Block 4 and Block 8, development (i.e. Darron Bldg., City Hall, and Hartley's) has occurred within reasonable comparison to previous projections. The parking supply identified in *Table 3* is the existing parking supply. Assuming new development does not change current inventory will help identify long-term parking needs. Details regarding the parking model have been included in *Appendix B*.

**TABLE 3
FUTURE PARKING SUPPLY AND DEMAND**

Location	Total
East of the Railroad	
Demand	1,317
Supply	1,141
West of the Railroad	
Demand	624
Supply	714
Total	
<i>Demand/Supply</i>	<i>1,941/1,855</i>
<i>Percent</i>	<i>105 percent</i>

As noted in the above table, the infill development and redevelopment recommended as part of the downtown master plan, developed by EDAW, and adopted by the City Council in 2003, will exceed the overall parking capacity in Downtown Lee's Summit. Overall, the projected demand in the core downtown area is estimated at 105 percent of the current supply. While a projected deficit remains, there has been obvious progress to meet long-term demand over the last seven years; evident by decreasing the 122 percent projected demand for the same area seven years prior.

West of the railroad tracks there is sufficient parking to meet the peak projected demand of approximately 624 spaces. However, the demand will accommodate approximately 87 percent of the supply which exceeds the desirable 75 percent peak occupancy for this area. An additional 118 spaces west of the railroad tracks would be needed to ensure a parking efficiency of 25 percent.

East of the railroad tracks there is a deficit in parking projected due to the infill development through the redevelopment, at least partially, of some or part of the surface parking lots. In this vicinity, approximately 176 spaces may be needed to meet demand and 615 spaces may be needed to reach the desirable 75 percent occupancy rate during typical peak periods. Approximately 120 of the 615 spaces are estimated along the railroad track frontage south of 3rd Street, near Block 3 (which is already approaching desired capacity). The 2003 Study had recommended a parking garage with approximately five levels of 150 spaces per level to meet the projected demand (a garage that could be incrementally expanded). Since 2003, a three level parking garage with 314 spaces was constructed at the southwest corner of 2nd and Green. Unfortunately, the parking garage cannot accommodate vertical expansion. Although the parking garage has an approximate occupancy rate between 50% and 60% that can


facilitate significant shared parking to the surrounding area, the full-build of City Hall has not been realized and will absorb some of the existing parking surplus.

The estimation of future parking demands is generally considered to have a wider range in potential needs. As such, future recommendations should be looked at as approximate ranges that could occur as individual market trends and businesses could significantly impact the amount of parking needed. While additional parking is recommended west of the railroad tracks, these spaces could be accommodated through careful planning and implementation of the infill developments. Parking east of the railroad tracks should take a similar approach, but additional measures identified in the Downtown Parking Strategies discussed with City Council in 2004 and 2005, should be pursued as development and redevelopment opportunities are presented.

Summary

A series of data collection efforts were completed to gather information on the existing parking characteristics in the study area. This new data will be used to assess development and redevelopment scenarios, as well as future parking demands. Generally, the parking supply has increased since 2003 and the parking demand has remained steady. Consequently, existing parking occupancy rates are below 75% for all blocks in the downtown core, the desired maximum occupancy rate according to industry best practice. Although there is sufficient parking availability to meet current demands and some improvements have occurred to accommodate future growth within downtown, the long-term projection derived in the 2003 study is still unmet. The long-term parking strategies identified over the last seven years, some of which have already been accomplished, remain applicable.



	<p>CITY OF LEE'S SUMMIT, MO PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</p>		<p>PARKING STUDY AREA</p>	<p>Figure 1</p>
	<p>DOWNTOWN LEE'S SUMMIT PARKING STUDY</p>			

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Figure 2



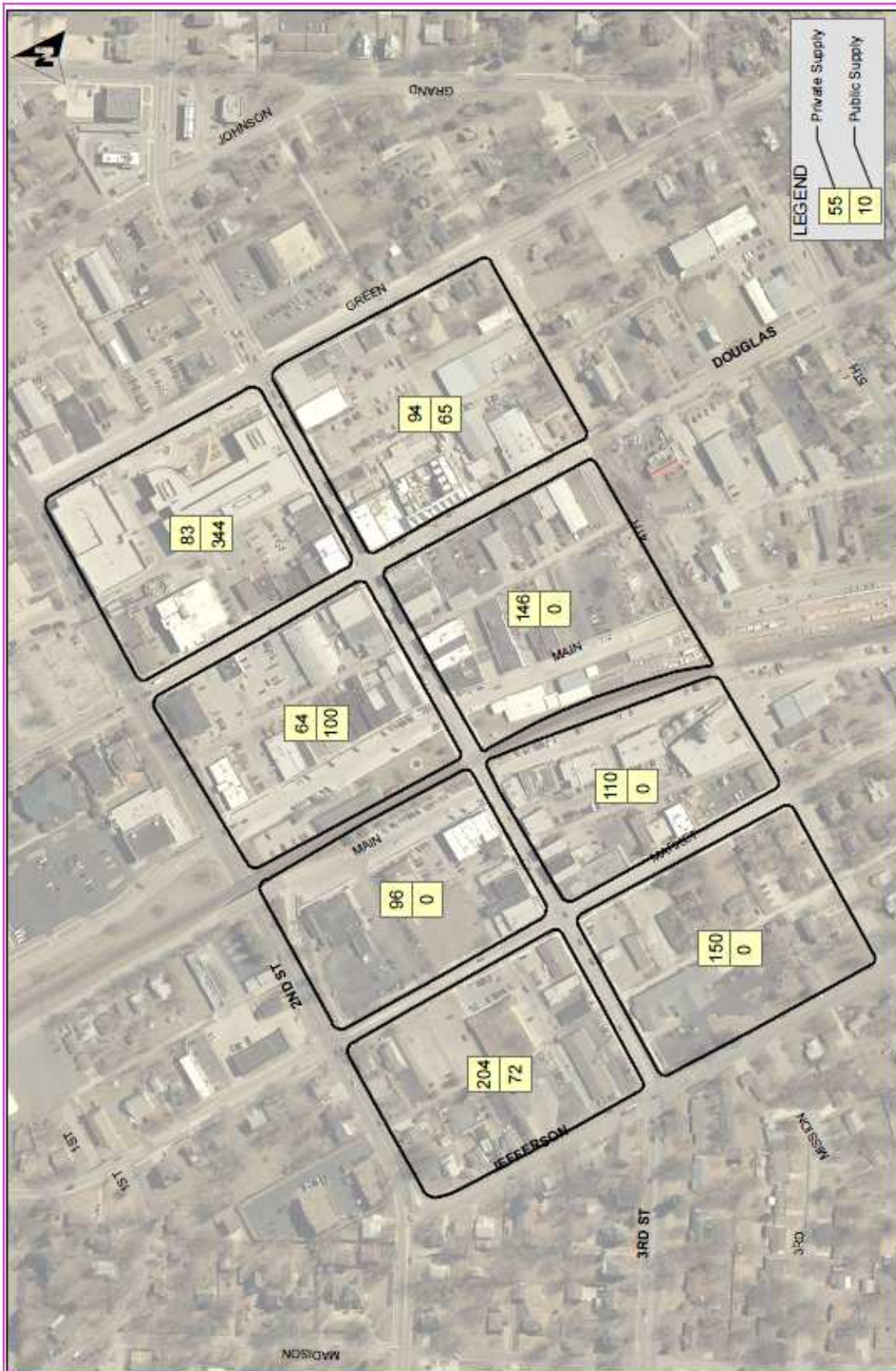


Figure 3

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Not to Scale

OFF-STREET PARKING SUPPLY

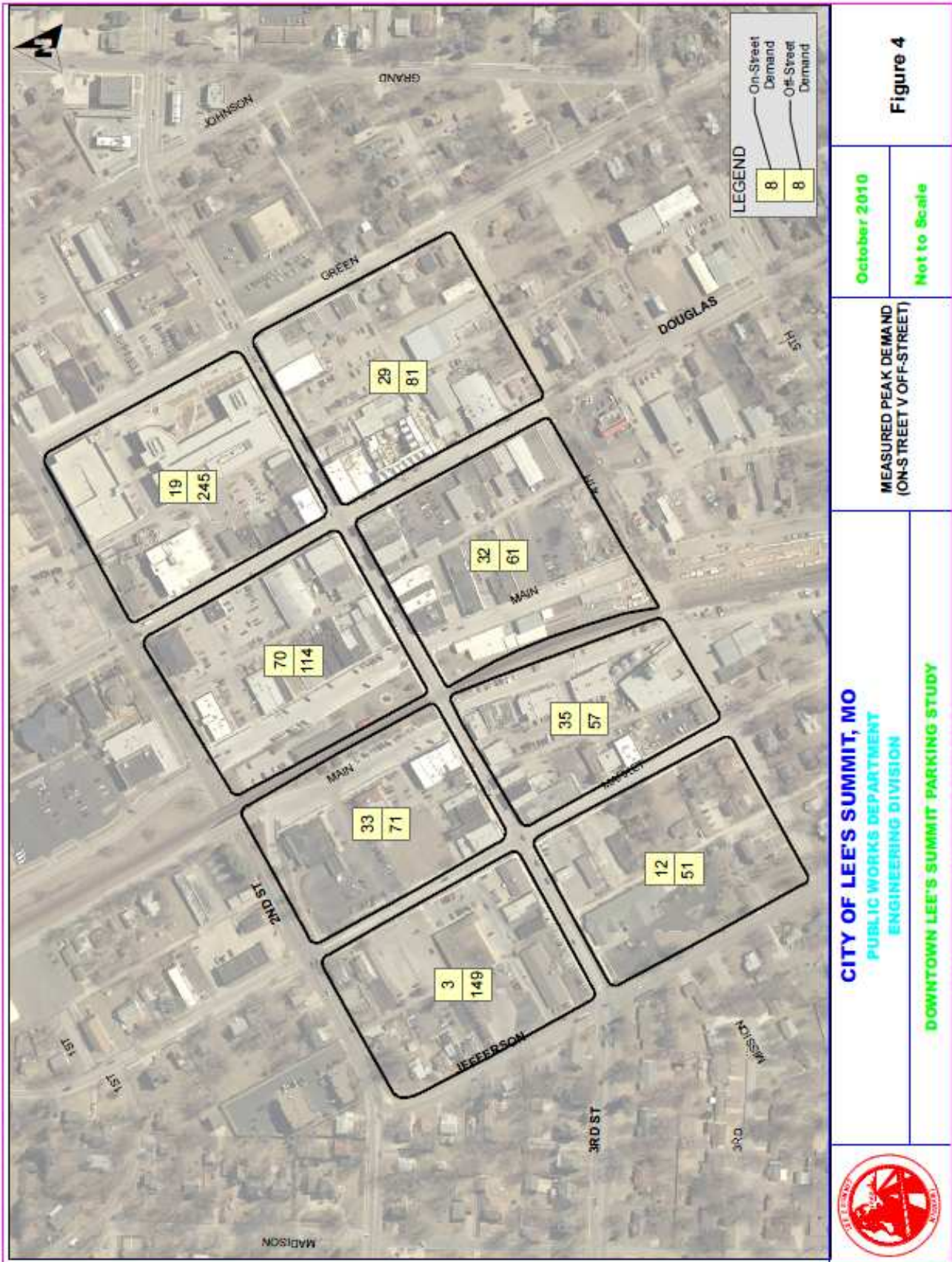
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DOWNTOWN LEE'S SUMMIT PARKING STUDY



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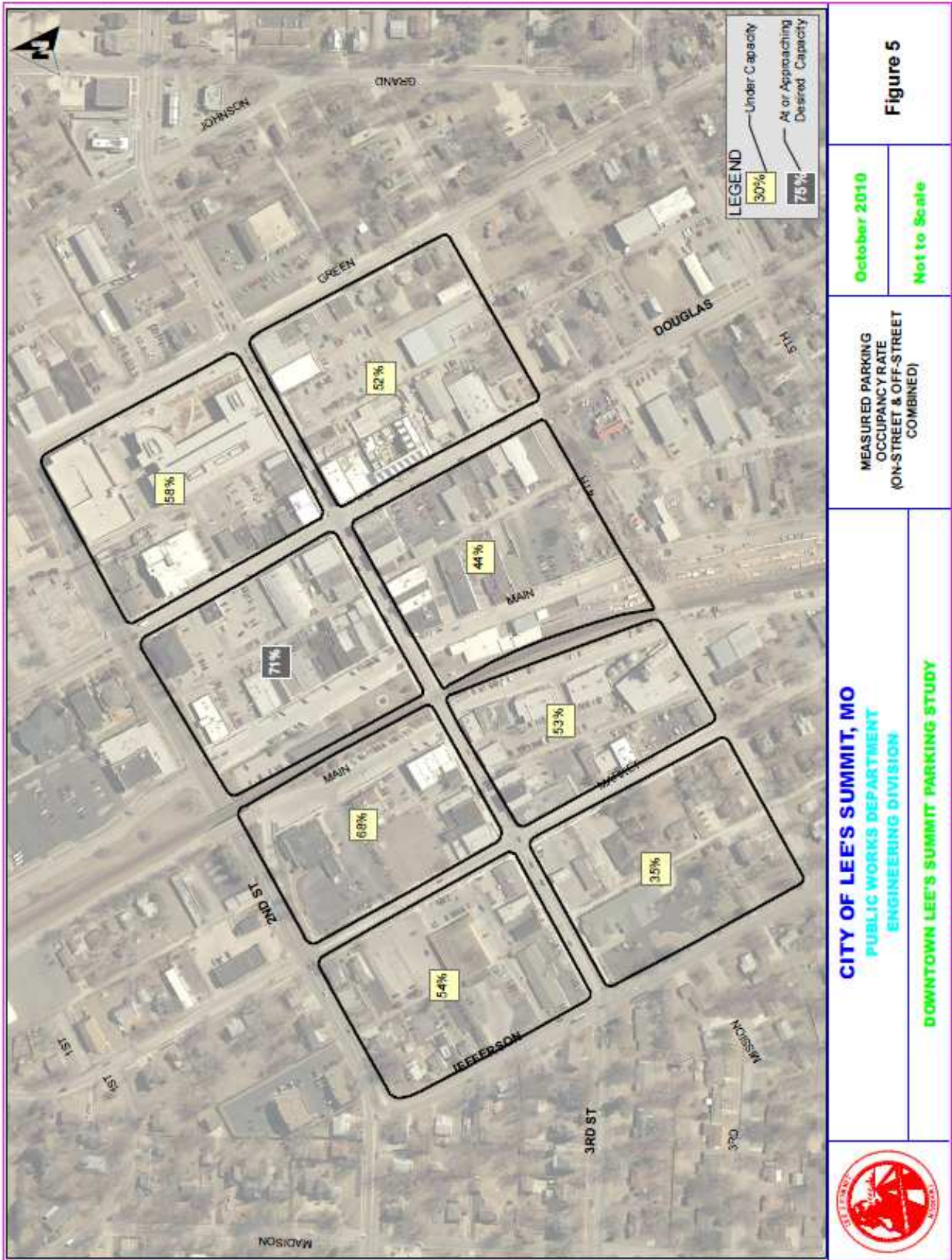


Figure 5

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Not to Scale

MEASURED PARKING OCCUPANCY RATE (ON-STREET & OFF-STREET COMBINED)

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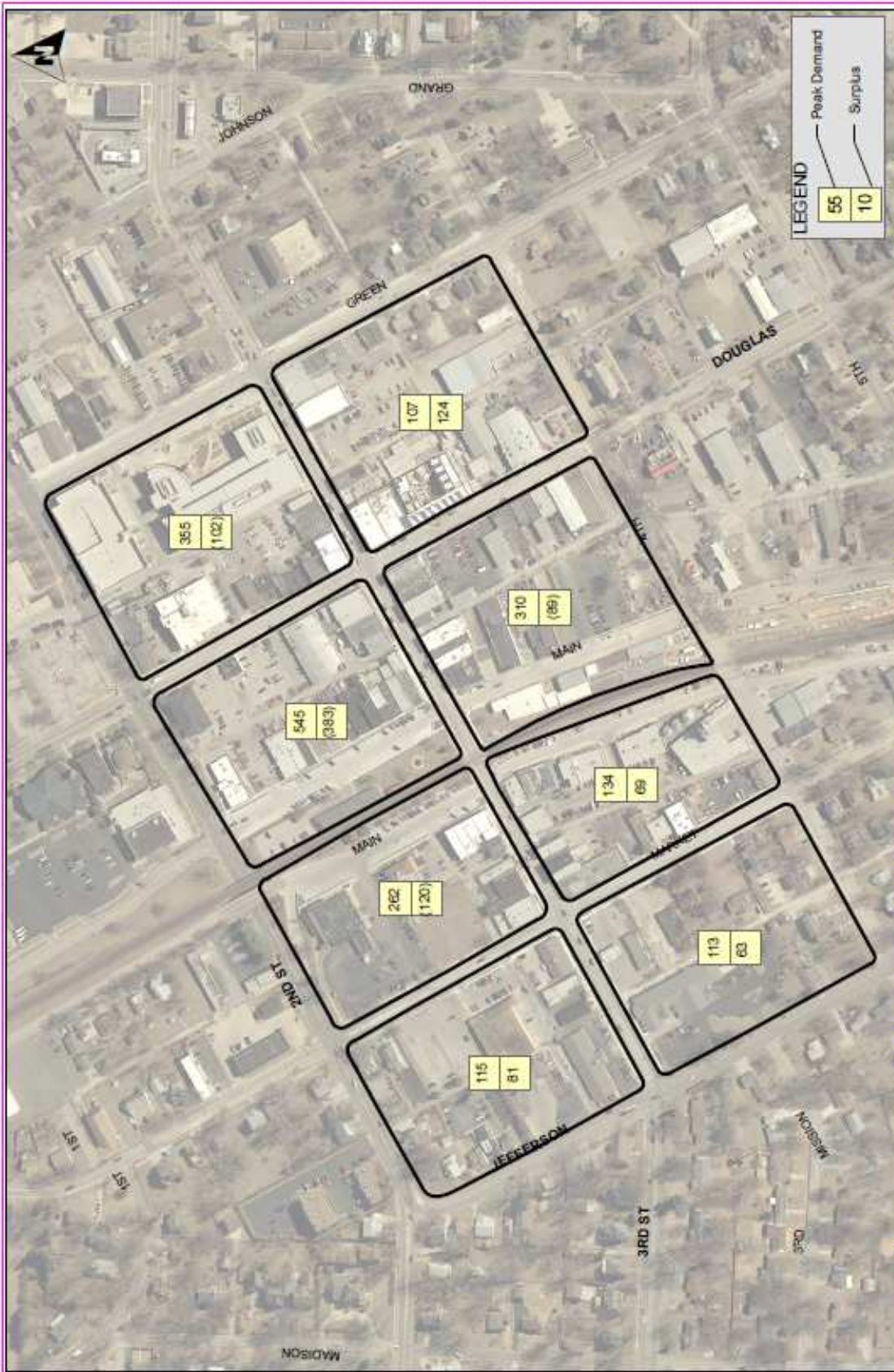


Figure 6

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Not to Scale

PROJECTED PARKING DEMAND/SURPLUS

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