



City of Franklin, Tennessee
Downtown Core Area Study

Downtown Study – Using and Comparing O/D Data

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David Chang, P.E. – Traffic Engineer II

City of Franklin, Tennessee

Downtown Core Area Study

Agenda:

- Purpose – Study Area
- O/D data - Destination versus Cut-Through
- Bypass Routes
- Parking
- Recommendations & Next Steps



City of Franklin, Tennessee

Downtown Core Area Study – Study Purpose/Area

Questions from BOMA

- What is the cause of traffic congestion in our downtown area?
- Is there a parking problem in the downtown area? Is this the cause of congestion?



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Downtown Core Area Study – Study Purpose/Area

Downtown Study by Traffic Operations Center:

- Use ‘Big Data’ to determine where traffic is coming from and where it is going
 - *Destination vs. Cut-Thru*
- Update 2016 Parking Study
- Present findings and recommendations





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Downtown Core Area Study – Study Purpose/Area



**STREETLIGHT
DATA**



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Downtown Core Area Study – Assumptions

Assumptions

- Gate-to-Gate Time \leq 20 Minutes
 - \leq = Cut-Through
 - $>$ = Destination
- Three Time Periods (Weekday & Weekend):
 - **AM:** 06:00 – 10:00
 - **Noon:** 10:00 – 14:00
 - **PM:** 14:00 – 19:00
- Data Time Frame
 - **April 2022**



City of Franklin, Tennessee

Downtown Core Area Study – Vendors



wejo

Volume, accuracy, speed and scale

Wejo has one of the largest data assets of authentic, high resolution, connected car data. This is objectively superior to mobile and static mobility data, offering significantly enhanced accuracy and quality:

- **Coverage of 95%** of roads in USA
- Transmitted every **1-3 seconds** from the vehicles, 95% to customers in under 32 seconds
- Accurate to within a **3-meter radius**, the size of a typical car
- **650,000** data points per second (peak)



City of Franklin, Tennessee

Downtown Core Area Study – Vendors



Volume, accuracy, speed and scale



STREETLIGHT DATA

Wejo has one of the largest data assets of authentic, high resolution, connected car data. This is objectively superior to mobile and static mobility data, offering significantly enhanced accuracy and quality:

All Vehicles modes

LBS+: Choose for analyses between **Jan 1, 2016 – Apr 30, 2022**. LBS+ is powered by LBS mobile device data and other sources.

CVD+: Choose for analyses of **May 1, 2022 and onwards**. CVD+ is Powered by Connected Vehicle Data and other sources.

Note: At this time, you can get *Traveler Attributes and Home and Work Locations* with LBS+ only.

- **Coverage of 95%** of roads in USA
- Transmitted every **1-3 seconds** from the vehicles, 95% to customers in under 32 seconds
- Accurate to within a **3-meter radius**, the size of a typical car
- **650,000** data points per second (peak)



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Downtown Core Area Study – SMATS

SMATS iNode > Dashboard / Journey / Networks / Franklin / OD Study / Weekend PM 20-30 min / Info

Welcome **dlc1321**

Role: Admin
Company: City of Franklin
Time Zone: US/Central

Journey >

- Dashboard
- Networks**
- Settings <

Info | Chart Report | Map Report | Statistics Report | Raw Report

OD Information

[Duplicate](#) [Edit](#) [Delete](#)

Name	Weekend PM 20-30 min
Create time	2022-08-15 10:31:50
Last Process Time	2022-08-15 15:19:37

Status	Processing Finished
Progress	<div style="width: 100%; height: 10px; background-color: green;"></div>

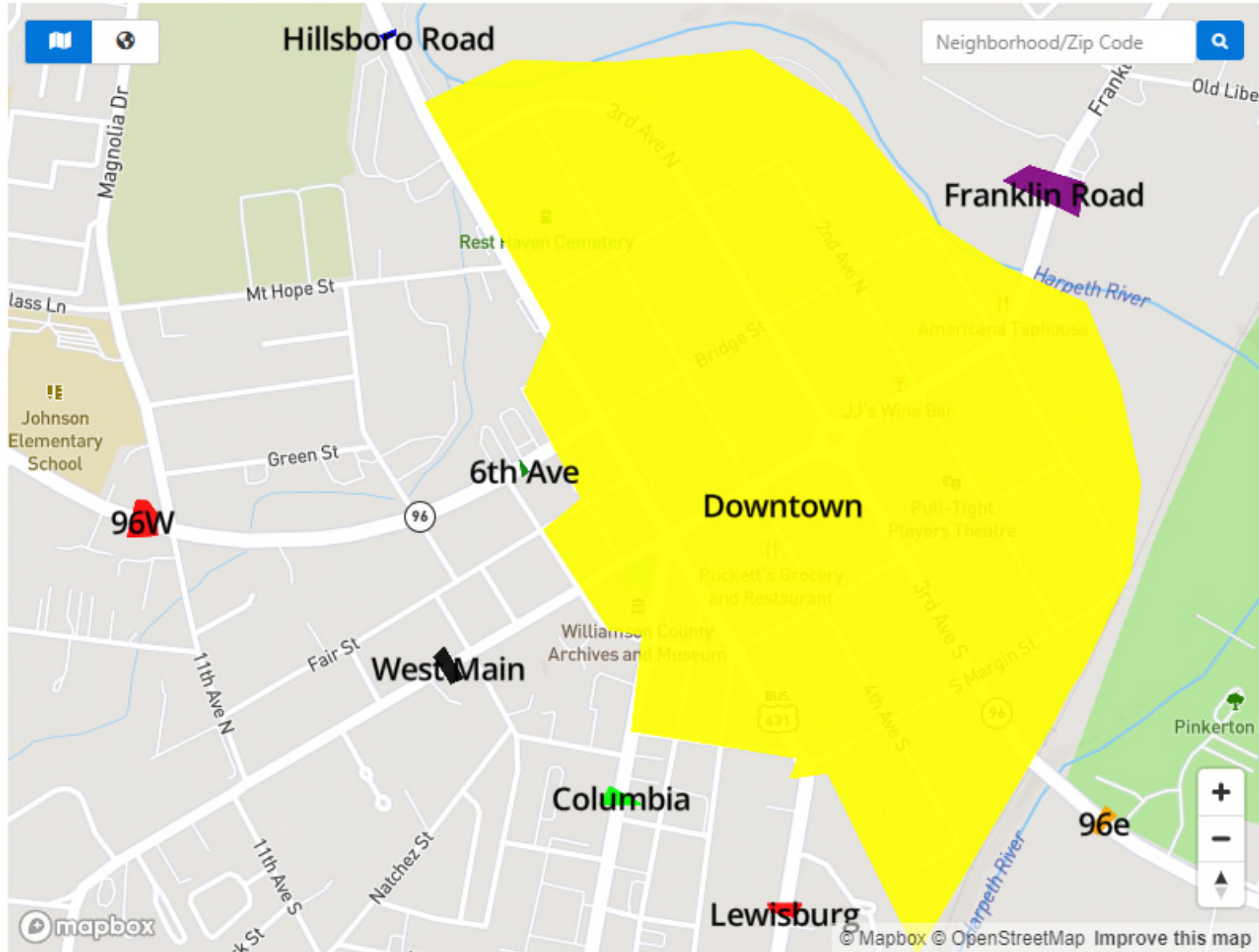
Zone Count	9
Zones	<ul style="list-style-type: none">Downtown (Origin/Destination)96e (Origin/Destination)Lewisburg (Origin/Destination)Franklin Road (Origin/Destination)Hillsboro Road (Origin/Destination)96W (Origin/Destination)Columbia (Origin/Destination)West Main (Origin/Destination)6th Ave (Origin/Destination)

Days	<ul style="list-style-type: none">2022-04-022022-04-092022-04-162022-04-232022-04-30
Time slices	<ul style="list-style-type: none">PM Peak : 14:00 - 19:00
Min Travel Time	20 (minute)
Max Travel Time	30 (minute)



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Downtown Core Area Study – Study Purpose/Area





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Downtown Core Area Study – Study Purpose/Area

Zone Configuration

Add

	Name	State	Color
✓ ✗	<input type="text" value="Downtown"/>	Origin/Destination ▾	<input type="text" value="Yellow"/>
✍ ✗	96e	Origin/Destination	Orange
✍ ✗	Lewisburg	Origin Only	Red
✍ ✗	Franklin Road	Destination Only	Purple
✍ ✗	Hillsboro Road	Include	Blue
✍ ✗	96W	Must Include	Blue
✍ ✗		Must Exclude	Red
✍ ✗	Columbia	Origin/Destination	Lime
✍ ✗	West Main	Origin/Destination	Black
✍ ✗	6th Ave	Origin/Destination	Green



City of Franklin, Tennessee

Downtown Core Area Study – Study Purpose/Area

Edit OD Study

1

Zone Selection

2

Configuration

3

Summary

Days

04/02/2022, 04/09/2022, 04/16/2022, 04/23/2022, 04/30/2022

Time Slices

		Name	Timeslot
✖	✎	PM Peak	14:00 - 19:00
+ Add			

Min. Travel Time (minute)

Max. Travel Time (minute)

Previous

Next



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Downtown Core Area Study – Study Purpose/Area

Info [Chart Report](#) [Map Report](#) [Statistics Report](#) [Raw Report](#)

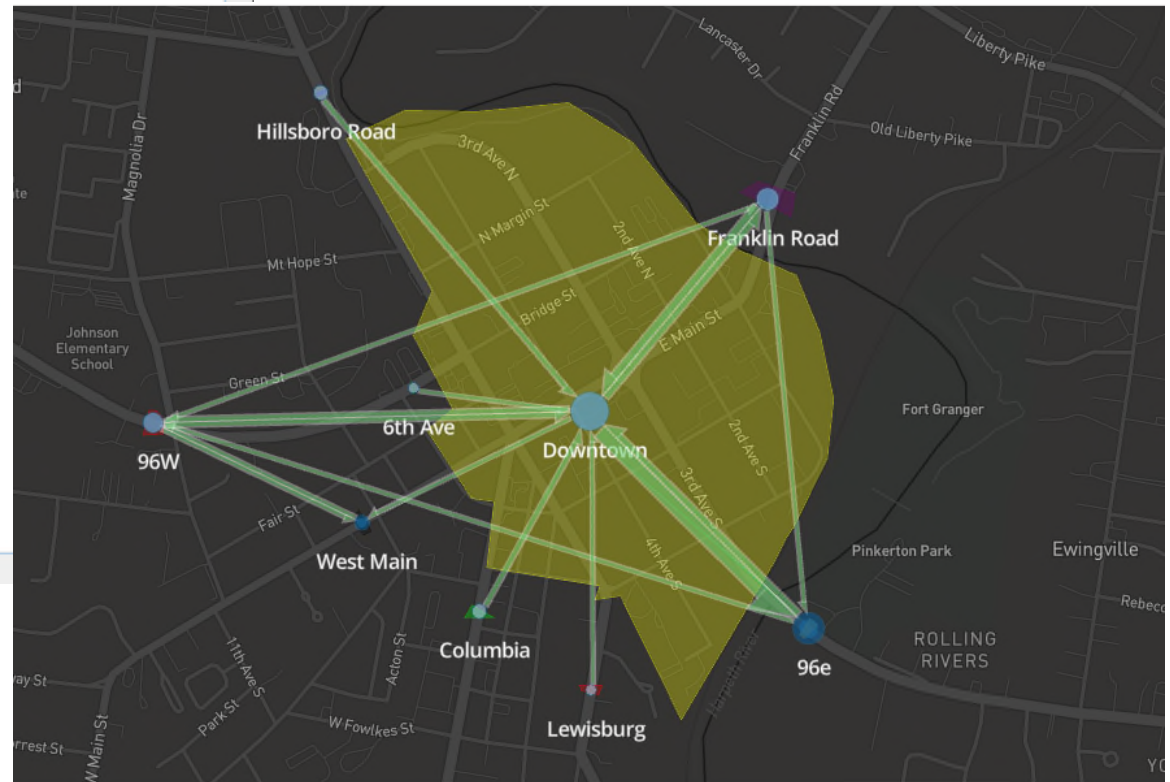
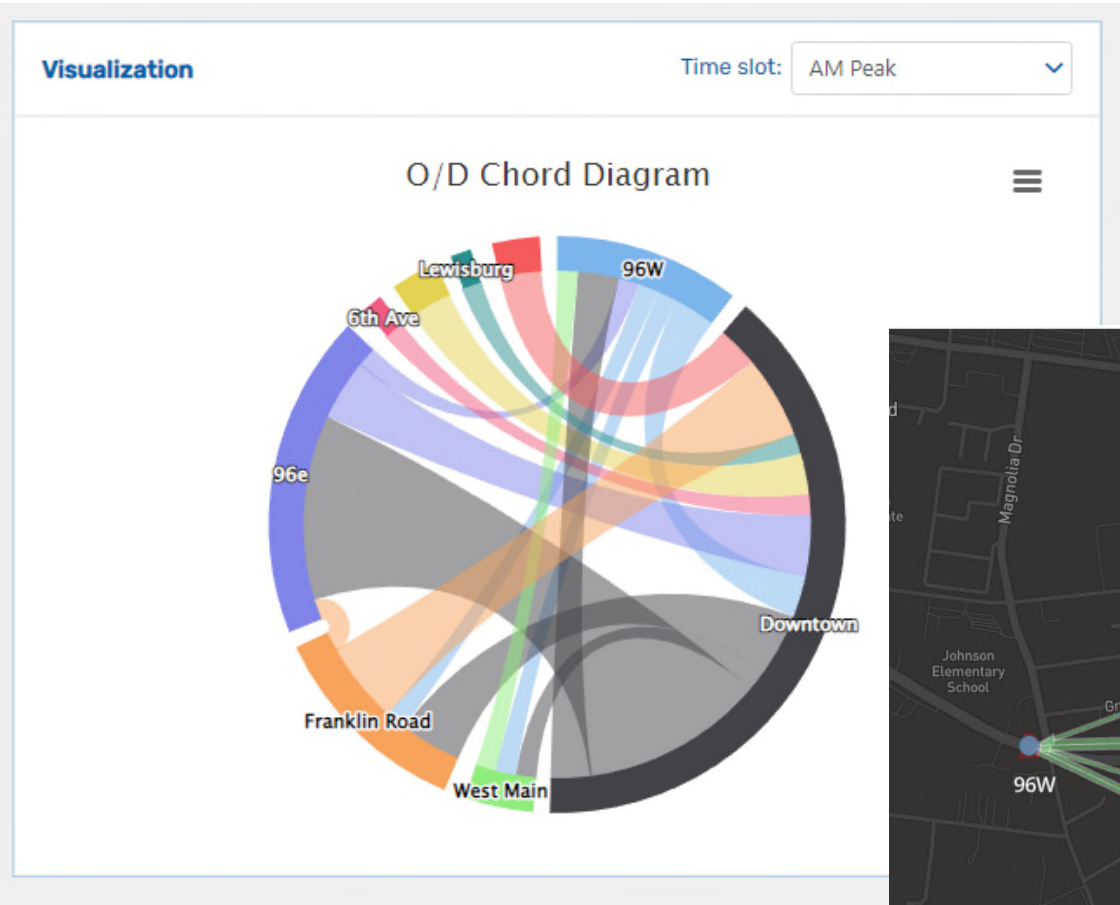
Count Matrix

Timeslot: AM Peak

Origin\Destination	6th Ave	96W	96e	Columbia	Downtown	Franklin Road	Hillsboro Road	Lewisburg	West Main	Total Originated
6th Ave	0	0	0	0	1	0	0	0	0	1
96W	0	1	0	0	2	1	0	0	1	5
96e	0	1	3	0	3	0	0	0	0	7
Columbia	0	0	0	0	2	0	0	0	0	2
Downtown	0	2	9	0	39	3	0	0	1	54
Franklin Road	0	0	1	0	4	4	0	0	0	9
Hillsboro Road	0	0	0	0	2	0	0	0	0	2
Lewisburg	0	0	0	0	1	0	0	0	0	1
West Main	0	1	0	0	0	0	0	0	0	1
Total Destinated	0	5	13	0	54	8	0	0	2	82

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Downtown Core Area Study – Study Purpose/Area





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Travel Pattern	Origin	Destination	Count	Average Travel Time	95th Percentile Travel Time	Max Travel Time	Min Travel Time	Pass Thru
6th Ave --> Downtown	6th Ave	Downtown	23	00:02:11	00:05:02	00:05:44	00:01:06	1
6th Ave --> Downtown --> 96e	6th Ave	96e	14	00:03:22	00:05:04	00:06:54	00:02:21	1
6th Ave --> Downtown --> Columbia	6th Ave	Columbia	5	00:03:05	00:05:44	00:05:54	00:01:21	1
6th Ave --> Downtown --> Franklin Road	6th Ave	Franklin Road	35	00:03:08	00:03:51	00:07:30	00:01:59	1
6th Ave --> Downtown --> Hillsboro Road	6th Ave	Hillsboro Road	51	00:02:08	00:05:57	00:08:02	00:01:00	1
96W --> 6th Ave --> Downtown	96W	Downtown	207	00:03:15	00:06:13	00:09:12	00:01:03	1
96W --> 6th Ave --> Downtown --> 6th Ave	96W	6th Ave	1	00:07:00	00:07:00	00:07:00	00:07:00	1
96W --> 6th Ave --> Downtown --> 6th Ave --> 96W	96W	96W	8	00:07:34	00:09:19	00:09:36	00:04:27	1
96W --> 6th Ave --> Downtown --> 96e	96W	96e	244	00:04:34	00:06:33	00:09:21	00:02:27	1
96W --> 6th Ave --> Downtown --> Columbia	96W	Columbia	10	00:04:25	00:09:07	00:09:12	00:02:09	1
96W --> 6th Ave --> Downtown --> Franklin Road	96W	Franklin Road	147	00:04:02	00:06:00	00:08:24	00:02:15	1
96W --> 6th Ave --> Downtown --> Franklin Road --> Downtown	96W	Downtown	1	00:09:21	00:09:21	00:09:21	00:09:21	1
96W --> 6th Ave --> Downtown --> Hillsboro Road	96W	Hillsboro Road	103	00:02:47	00:04:44	00:09:48	00:01:21	1
96W --> 6th Ave --> Downtown --> Hillsboro Road --> Downtown	96W	6th Ave	1	00:06:13	00:06:13	00:06:13	00:06:13	1
96W --> 6th Ave --> Downtown --> Hillsboro Road --> Downtown	96W	96W	1	00:09:42	00:09:42	00:09:42	00:09:42	1
96W --> 6th Ave --> Downtown --> Lewisburg	96W	Lewisburg	3	00:03:48	00:04:21	00:04:27	00:03:27	1
96W --> 6th Ave --> Downtown --> Lewisburg --> Downtown --> Downtown	96W	Columbia	1	00:09:09	00:09:09	00:09:09	00:09:09	1
96W --> 6th Ave --> Downtown --> West Main	96W	West Main	2	00:04:09	00:05:54	00:06:06	00:02:12	1
96W --> Downtown	96W	Downtown	12	00:02:54	00:03:40	00:03:42	00:01:33	1
96W --> Downtown --> 96e	96W	96e	10	00:04:43	00:06:21	00:06:24	00:03:33	1
96W --> Downtown --> Columbia	96W	Columbia	7	00:02:51	00:03:19	00:03:21	00:02:12	1
96W --> Downtown --> Franklin Road	96W	Franklin Road	4	00:05:54	00:06:40	00:06:45	00:05:00	1
96W --> Hillsboro Road --> Downtown --> Columbia	96W	Columbia	1	00:06:51	00:06:51	00:06:51	00:06:51	1
96W --> Lewisburg --> Downtown --> 96e	96W	96e	1	00:08:43	00:08:43	00:08:43	00:08:43	1
96W --> West Main --> Downtown	96W	Downtown	1	00:04:08	00:04:08	00:04:08	00:04:08	1
96W --> West Main --> Downtown --> Columbia	96W	Columbia	1	00:03:21	00:03:21	00:03:21	00:03:21	1
96e --> Downtown	96e	Downtown	624	00:02:56	00:05:26	00:09:39	00:01:00	1
96e --> Downtown --> 6th Ave	96e	6th Ave	7	00:04:35	00:06:36	00:07:24	00:03:18	1
96e --> Downtown --> 6th Ave --> 96W	96e	96W	87	00:04:43	00:06:12	00:07:24	00:03:00	1
96e --> Downtown --> 6th Ave --> Downtown	96e	Downtown	3	00:05:55	00:07:56	00:08:18	00:04:40	1
96e --> Downtown --> 6th Ave --> Downtown --> 6th Ave --> Downtown	96e	Downtown	1	00:09:57	00:09:57	00:09:57	00:09:57	1
96e --> Downtown --> 6th Ave --> Downtown --> Columbia	96e	Columbia	1	00:05:33	00:05:33	00:05:33	00:05:33	1
96e --> Downtown --> 6th Ave --> Downtown --> Lewisburg	96e	Lewisburg	1	00:04:54	00:04:54	00:04:54	00:04:54	1
96e --> Downtown --> 6th Ave --> West Main	96e	West Main	4	00:07:24	00:09:29	00:09:42	00:05:21	1
96e --> Downtown --> 96W	96e	96W	13	00:05:10	00:08:44	00:09:21	00:03:24	1



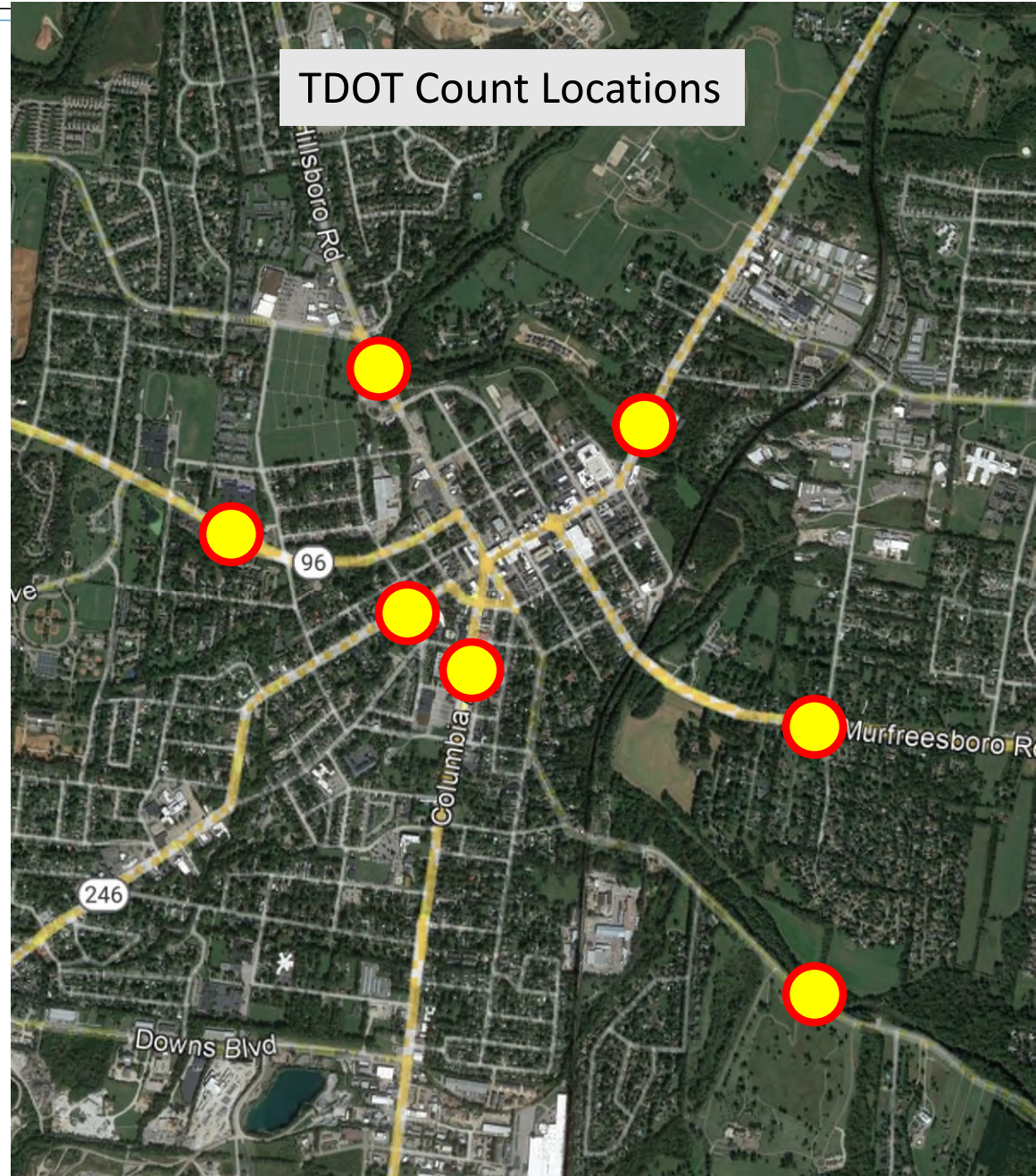
City of Franklin, Tennessee

Downtown Core Area Study – Penetration Rate



Using TDOT ATR – Adjacent to Downtown

TDOT ADT		Volume	% of TDOT ADT
		SMATS	SMATS
Street	ADT	Matches/ day	Penetration Rate by Street
96 East	19916	402	2.0%
96 West	16881	178	1.1%
Franklin	17123	199	1.2%
Columbia	9687	187	1.9%
Hillsboro	15144	203	1.3%
Lewisberg	7921	106	1.3%
West Main	6142	70	1.1%
Average Rate			1.4%





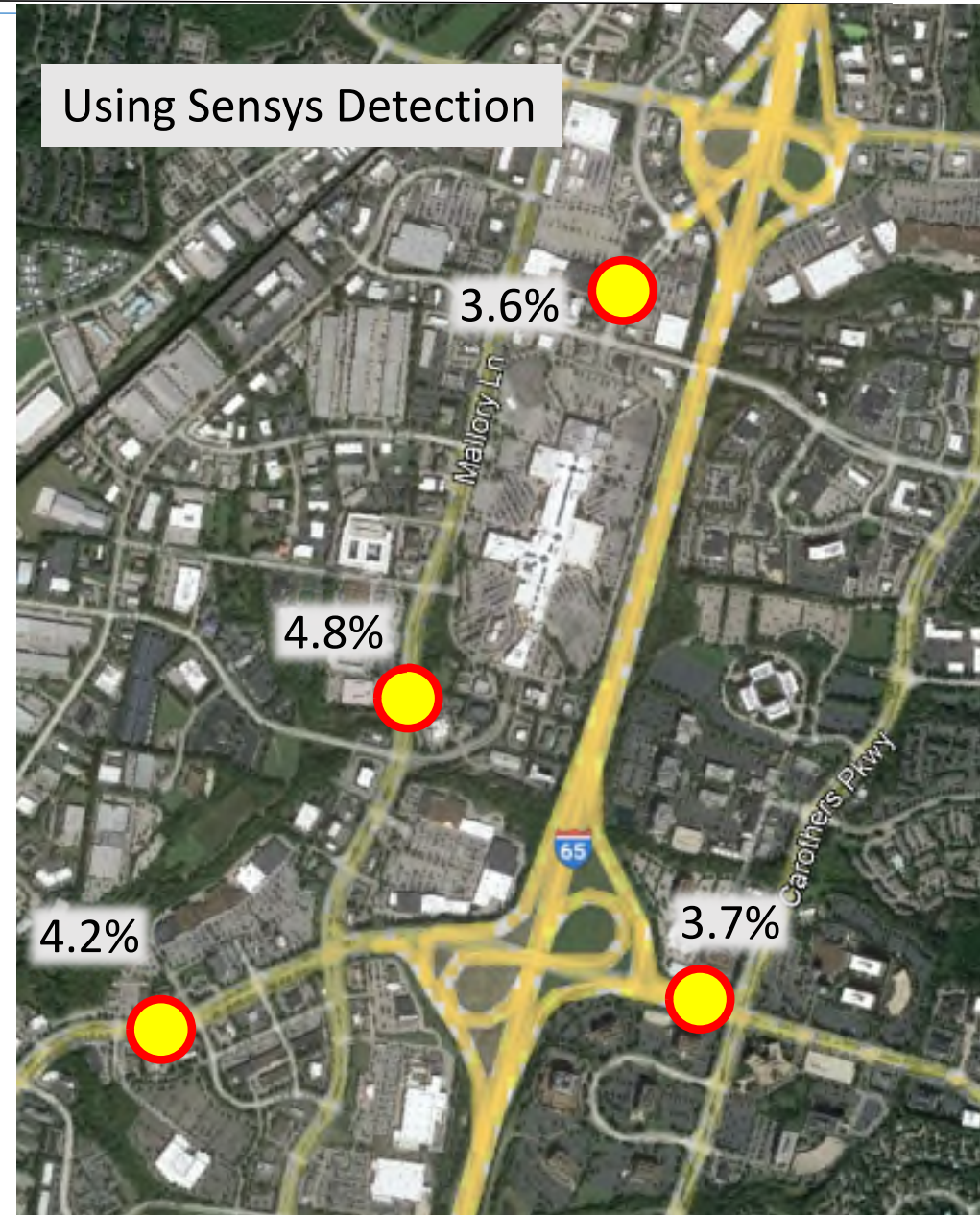
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Downtown Core Area Study – Penetration Rate



Using Sensys Detection – Cool Springs Area

Sensys Detection			
Street	Volume	SMATS	
		Matches/day	Penetration Rate by Street
Cool Springs @ Frazier	28139	1180	4.2%
Cool Springs @ Carothers	32315	1181	3.7%
Galleria @ Bakers Bridge	13191	481	3.6%
Mallory @ Mallory Station	21848	1041	4.8%
Average Rate			4.1%





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6th Ave --> Downtown	6th Ave	Downtown	23	00:02:11	00:05:02	00:05:44	00:01:06	1
6th Ave --> Downtown --> 96e	6th Ave	96e	14	00:03:22	00:05:04	00:06:54	00:02:21	1
6th Ave --> Downtown --> Columbia	6th Ave	Columbia	5	00:03:05	00:05:44	00:05:54	00:01:21	1
6th Ave --> Downtown --> Franklin Road	6th Ave	Franklin Road	35	00:03:08	00:03:51	00:07:30	00:01:59	1
6th Ave --> Downtown --> Hillsboro Road	6th Ave	Hillsboro Road	51	00:02:08	00:05:57	00:08:02	00:01:00	1
96W --> 6th Ave --> Downtown	96W	Downtown	207	00:03:15	00:06:13	00:09:12	00:01:03	1
96W --> 6th Ave --> Downtown --> 6th Ave	96W	6th Ave	1	00:07:00	00:07:00	00:07:00	00:07:00	1
96W --> 6th Ave --> Downtown --> 6th Ave --> 96W	96W	96W	8	00:07:34	00:09:19	00:09:36	00:04:27	1
96W --> 6th Ave --> Downtown --> 96e	96W	96e	244	00:04:34	00:06:33	00:09:21	00:02:27	1
96W --> 6th Ave --> Downtown --> Columbia	96W	Columbia	10	00:04:25	00:09:07	00:09:12	00:02:09	1
96W --> 6th Ave --> Downtown --> Franklin Road	96W	Franklin Road	147	00:04:02	00:06:00	00:08:24	00:02:15	1
96W --> 6th Ave --> Downtown --> Franklin Road --> Downtown	96W	Downtown	1	00:09:21	00:09:21	00:09:21	00:09:21	1
96W --> 6th Ave --> Downtown --> Hillsboro Road	96W	Hillsboro Road	103	00:02:47	00:04:44	00:09:48	00:01:21	1
96W --> 6th Ave --> Downtown --> Hillsboro Road --> Downtown	96W	6th Ave	1	00:06:13	00:06:13	00:06:13	00:06:13	1
96W --> 6th Ave --> Downtown --> Hillsboro Road --> Downtown	96W	96W	1	00:09:42	00:09:42	00:09:42	00:09:42	1
96W --> 6th Ave --> Downtown --> Lewisburg	96W	Lewisburg	3	00:03:48	00:04:21	00:04:27	00:03:27	1
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96W --> Downtown	96W	Downtown	12	00:02:54	00:03:40	00:03:42	00:01:33	1
96W --> Downtown --> 96e	96W	96e	10	00:04:43	00:06:21	00:06:24	00:03:33	1
96W --> Downtown --> Columbia	96W	Columbia	7	00:02:51	00:03:19	00:03:21	00:02:12	1
96W --> Downtown --> Franklin Road	96W	Franklin Road	4	00:05:54	00:06:40	00:06:45	00:05:00	1
96W --> Hillsboro Road --> Downtown --> Columbia	96W	Columbia	1	00:06:51	00:06:51	00:06:51	00:06:51	1
96W --> Lewisburg --> Downtown --> 96e	96W	96e	1	00:08:43	00:08:43	00:08:43	00:08:43	1
96W --> West Main --> Downtown	96W	Downtown	1	00:04:08	00:04:08	00:04:08	00:04:08	1
96W --> West Main --> Downtown --> Columbia	96W	Columbia	1	00:03:21	00:03:21	00:03:21	00:03:21	1
96e --> Downtown	96e	Downtown	624	00:02:56	00:05:26	00:09:39	00:01:00	1
96e --> Downtown --> 6th Ave	96e	6th Ave	7	00:04:35	00:06:36	00:07:24	00:03:18	1
96e --> Downtown --> 6th Ave --> 96W	96e	96W	87	00:04:43	00:06:12	00:07:24	00:03:00	1
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96e --> Downtown --> 6th Ave --> Downtown --> 6th Ave --> Downtown	96e	Downtown	1	00:09:57	00:09:57	00:09:57	00:09:57	1
96e --> Downtown --> 6th Ave --> Downtown --> Columbia	96e	Columbia	1	00:05:33	00:05:33	00:05:33	00:05:33	1
96e --> Downtown --> 6th Ave --> Downtown --> Lewisburg	96e	Lewisburg	1	00:04:54	00:04:54	00:04:54	00:04:54	1
96e --> Downtown --> 6th Ave --> West Main	96e	West Main	4	00:07:24	00:09:29	00:09:42	00:05:21	1
96e --> Downtown --> 96W	96e	96W	13	00:05:10	00:08:44	00:09:21	00:03:24	1



City of Franklin, Tennessee

Downtown Core Area Study – Study Purpose/Area

96e --> Downtown	96e	Downtown	624
96e --> Downtown --> 6th Ave	96e	6th Ave	7
96e --> Downtown --> 6th Ave --> 96W	96e	96W	87
96e --> Downtown --> 6th Ave --> Downtown	96e	Downtown	3
96e --> Downtown --> 6th Ave --> Downtown --> 6th Ave --> Dov	96e	Downtown	1
96e --> Downtown --> 6th Ave --> Downtown --> Columbia	96e	Columbia	1
96e --> Downtown --> 6th Ave --> Downtown --> Lewisburg	96e	Lewisburg	1
96e --> Downtown --> 6th Ave --> West Main	96e	West Main	4
96e --> Downtown --> 96W	96e	96W	13



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Downtown Core Area Study – Route Utilization

Weekday AM Peak Trips

	Downtown Destination	Total Pass - thru	Percent Ending in Downtown	Percent Cut - Through
96 West	221	545	29%	71%
96 East	628	624	50%	50%
Columbia	195	376	34%	66%
Franklin	217	239	48%	52%
Hillsboro	209	415	33%	67%
Lewisberg	55	331	14%	86%
West Main	49	187	21%	79%
Total	1597	2822	36%	64%



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Downtown Core Area Study – Route Utilization

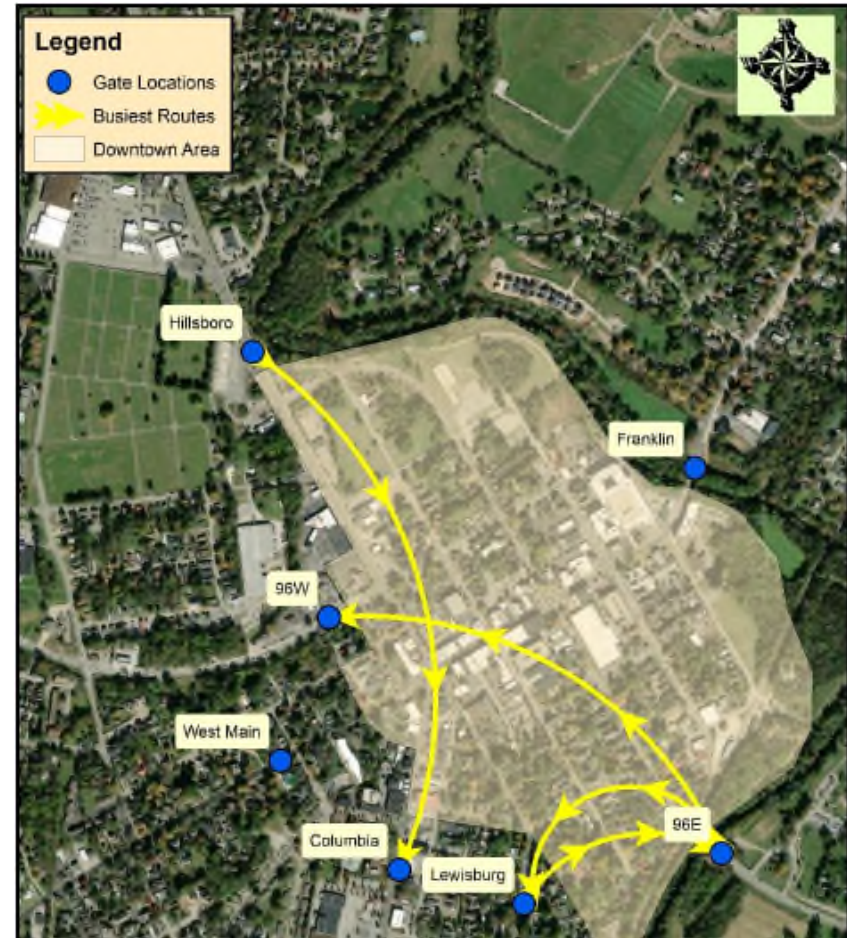
	Peak Hour	Average % Cut Thru		Average % Destination	
		Streetlight	SMATS	Streetlight	SMATS
Weekday	AM	79	64	21	36
	Noon	75	63	25	37
	PM	82	74	18	26
Weekend	AM	69	64	31	36
	Noon	69	65	31	35
	PM	70	65	30	35

City of Franklin, Tennessee

Downtown Core Area Study – Destination Results

Destination vs Cut-Through Results

- **AM Cut-through**
 - Weekday Avg: 71%
 - Weekend Avg: 66%
- **Noon Cut-through**
 - Weekday Avg: 69%
 - Weekend Avg: 67%
- **PM Cut Through**
 - Weekday Avg: 78%
 - Weekend Avg: 67%



GENERALLY, **1 OUT OF EVERY 3 - 4 VEHICLES** IS HEADING TO THE DOWNTOWN CORE AREA AS A **DESTINATION** WITH THE REST CUTTING THROUGH



City of Franklin, Tennessee

Downtown Core Area Study – Route Utilization

Streetlight			SMATS		
Weekday			Weekday		
AM	Noon	PM	AM	Noon	PM
96W - Franklin 592	Columbia - Hillsboro 508	Lewisburg - 96E 854	Lewisburg - 96E 289	Lewisburg - 96E 283	Lewisburg - 96E 388
96W - 96E 550	Lewisburg - 96E 457	Hillsboro - Columbia 715	96W - 96E 244	96E - Lewisburg 222	96E - Lewisburg 350
Lewisburg - 96E 546	96W-96E 426	96W - 96E 703	Columbia - Hillsboro 206	Columbia - Hillsboro 206	Columbia - Hillsboro 293
Columbia - Hillsboro 490	Hillsboro - Columbia 417	96E - Lewisburg 690	96E - Lewisburg 197	Hillsboro - Columbia 196	Franklin - 96W 254
96W - Hillsboro 441	96E - Lewisburg 389	96e - 96W 684	Hillsboro - Columbia 165	96W- 96E 157	Hillsboro - Columbia 250
Franklin - 96W 441	96E - 96W 350	Franklin - 96W 672	96W - Franklin 147	96E - 96W 127	96E - 96W 248



City of Franklin, Tennessee





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Downtown Core Area Study – Route Utilization

Busiest Gates

- **SR-96 East (Murfreesboro Rd)**
 - Most all time periods and days of week
- **SR-96 West (New Hwy 96W)**
 - Commuter/School times (AM/PM weekday)
- **Franklin Road**
 - Commuter/School times (AM/PM weekday)

Intersection	Weekday			Weekend		
	AM	Noon	PM	AM	Noon	PM
96 East	Orange	Orange	Red	Yellow	Orange	Orange
96 West	Orange	Yellow	Orange	Green	Orange	Orange
Franklin	Yellow	Yellow	Orange	Green	Orange	Orange
Columbia	Yellow	Yellow	Orange	Green	Yellow	Yellow
Hillsboro	Light Green	Yellow	Orange	Green	Yellow	Orange
Lewisburg	Green	Green	Light Green	Green	Light Green	Light Green
West Main	Green	Green	Light Green	Green	Green	Green



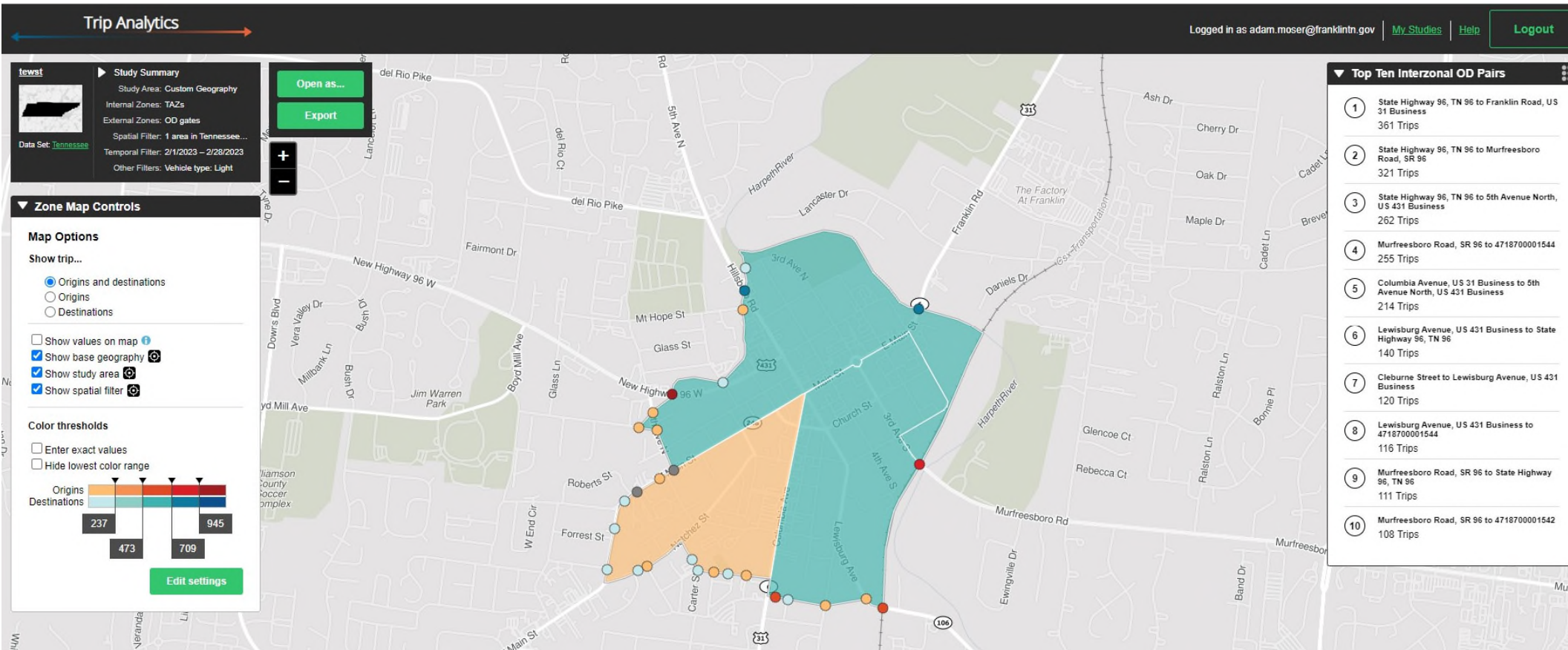
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Downtown Core Area Study – Route Utilization

May 2022 Streetlight using CVD

	Peak Hour	Average % Cut Thru			Average % Destination		
		Streetlight	SMATS	Streetlight (CVD)	Streetlight	SMATS	Streetlight (CVD)
Weekday	AM	79	64	69	21	36	31
	Noon	75	63	74	25	37	26
	PM	82	74	78	18	26	22
Weekend	AM	69	64	73	31	36	27
	Noon	69	65	69	31	35	31
	PM	70	65	57	30	35	43

RITIS Comparison using Nextgen Trip Analytics BETA





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Downtown Core Area Study – Ritis Comparison

RITIS Comparison – AM Weekday

20 Minute Time Interval		
	Trips	Pecent
Downtown Destination	1363	26%
Pass-through	3803	74%
Total	5166	

	Peak Hour	Average % Cut Thru			
		Streetlight	SMATS	Streetlight (CVD)	RITIS (20 min)
Weekday	AM	79	64	69	74



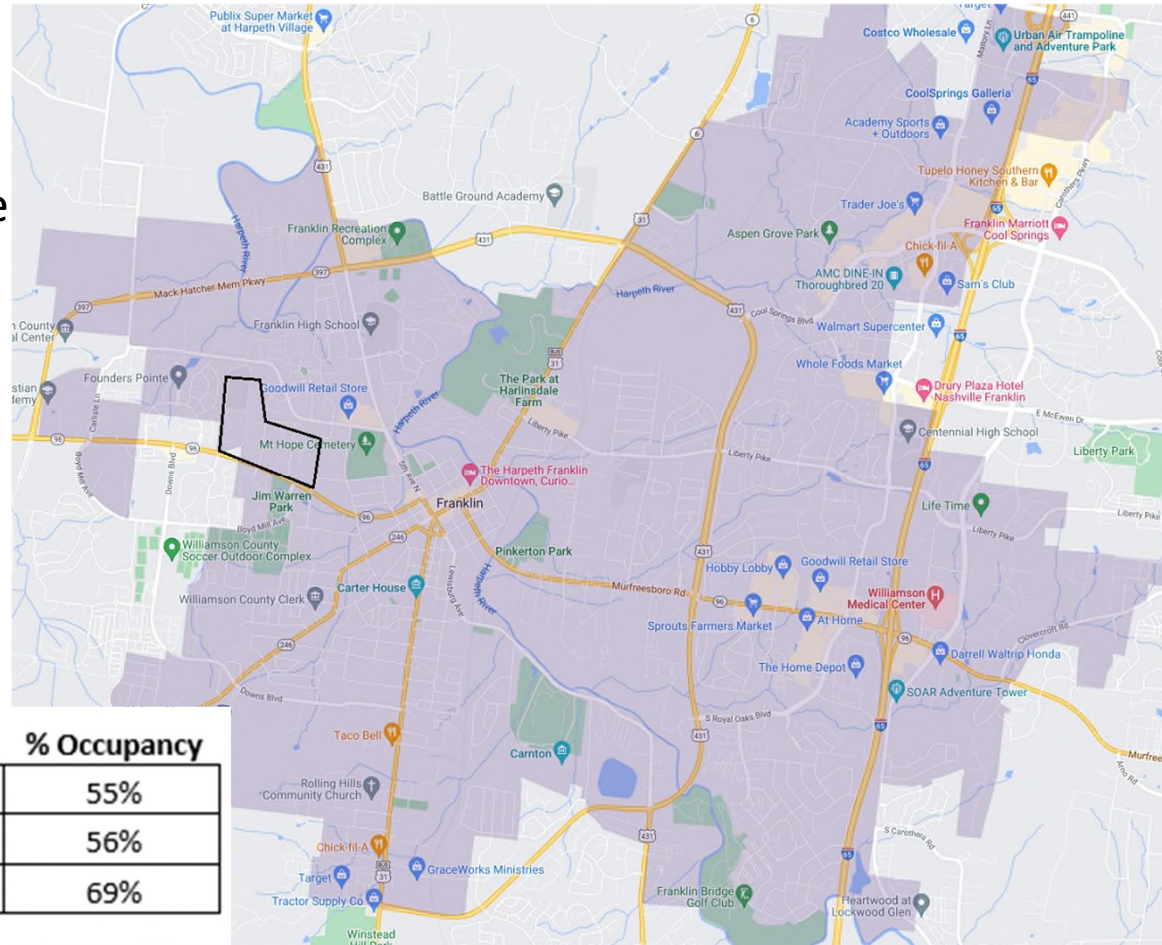
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Downtown Core Area Study – Cut-Thru Traffic

Primary Causes of Cut-Through

- **School Car-riders**
 - Freedom Intermediate/Middle
 - Franklin High School
 - Centennial High School
- **Commerce/Commuter**
 - North Columbia
 - Southwest (Williamson County)



	Total Students	Bus Occupancy	% Occupancy
Freedom Intermediate	535	294	55%
Freedom Middle	515	286	56%
Bus 'Surge' Capacity*	840	580	69%

Freedom Middle/Intermediate Zoning Map



City of Franklin, Tennessee

Downtown Core Area Study – Bypass Route Overview

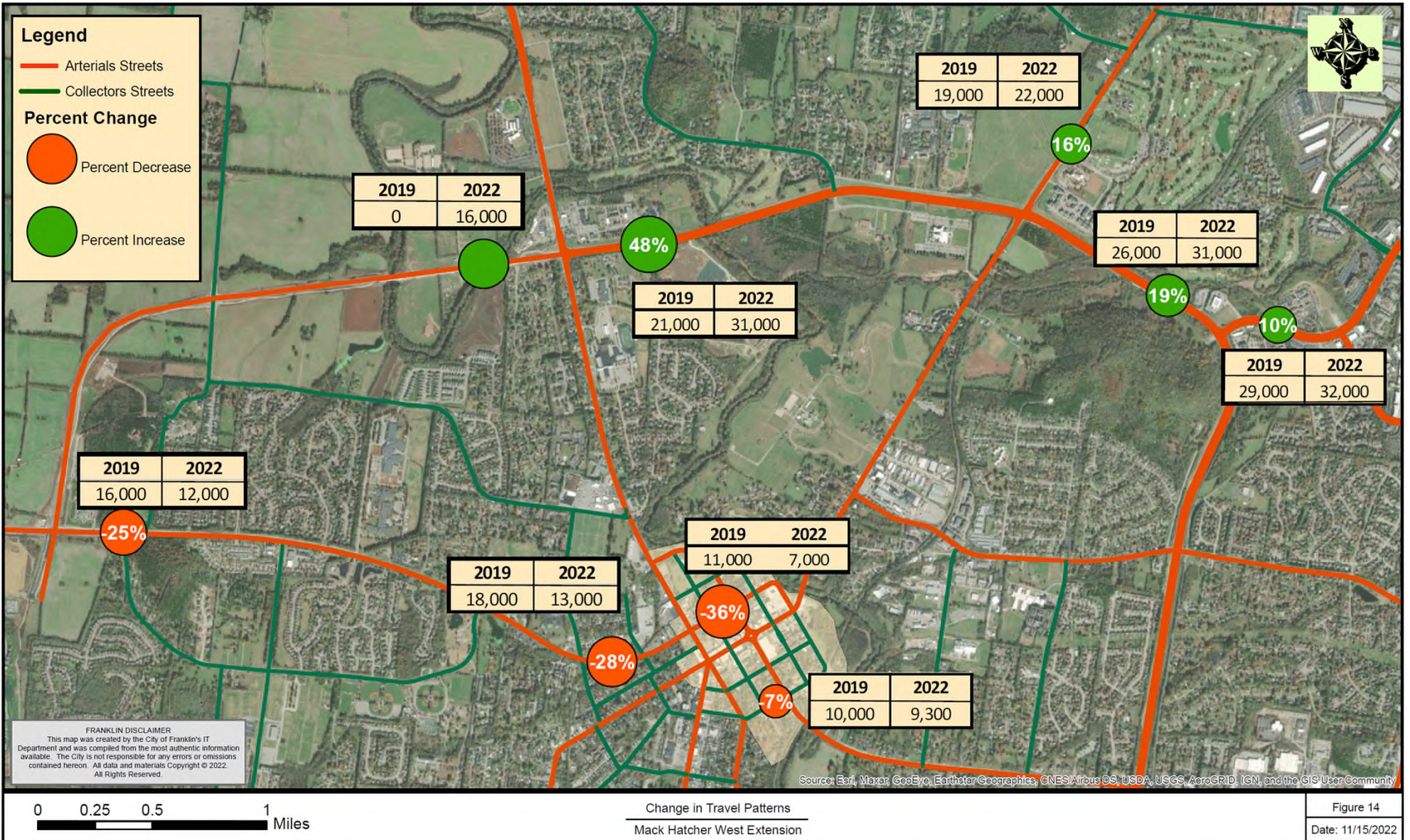
- **Generally, downtown bypass routes are known to ‘avoid’ Main Street/Square**
 - South Margin
 - Church Street
 - Bridge Street
- **Mack Hatcher Northwest Extension**
 - What are effects of opening? (since November 2021)
 - Bridge Street saw a large reduction
 - South Margin/SR 96E – much smaller reduction



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Downtown Core Area Study – Bypass Route Overview





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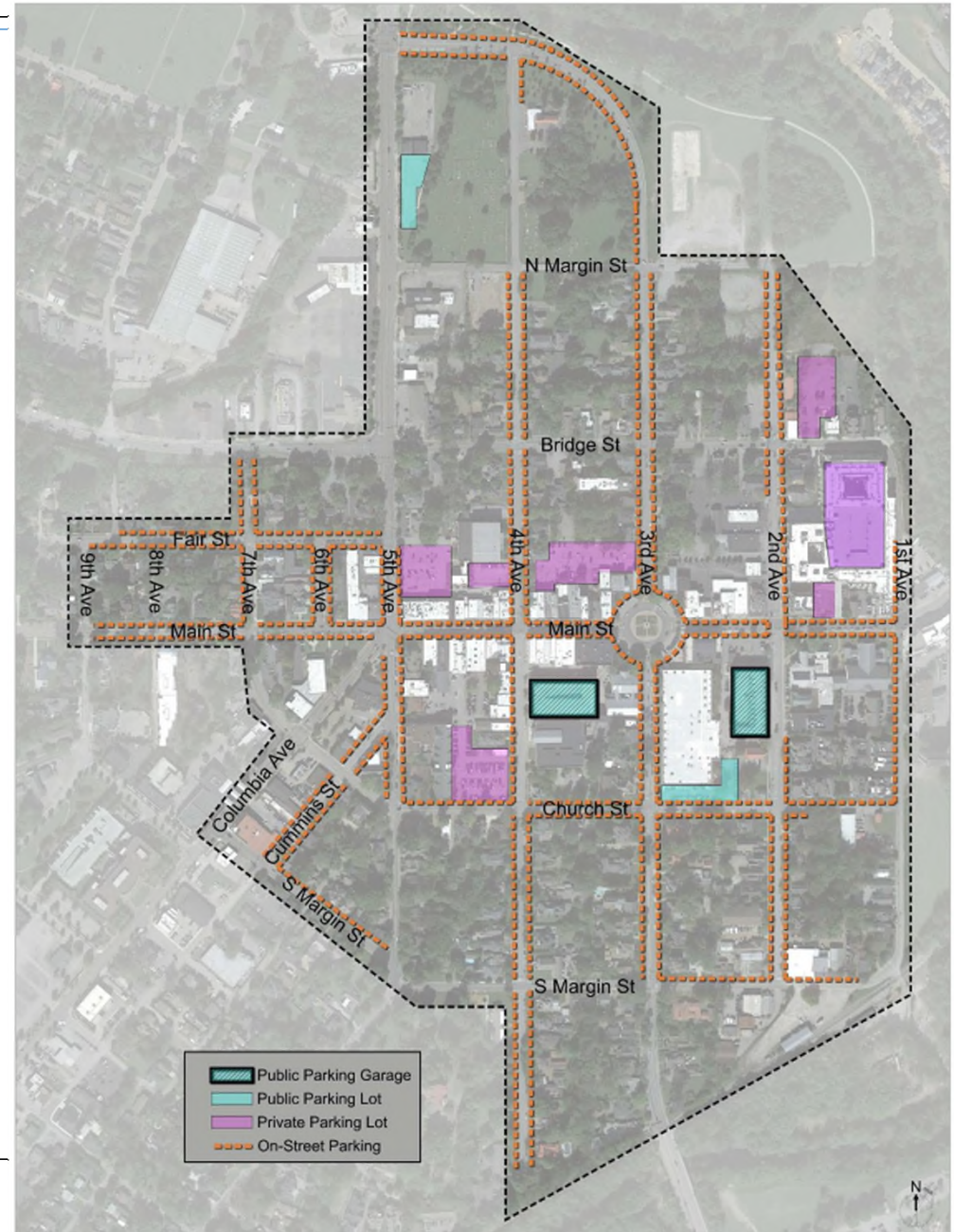
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Downtown Core Area Study – Parking Capacity

Parking Capacity*

On-Street		755
2nd Avenue Garage		252
4th Avenue Garage		345
Public Lots		90
Private (Pay) Lots		356
Harpeth Hotel (Pay)		367
Total Free		1442
Total Pay		723
Total		2165

*There is additional capacity outside of study area; Pay lots do not include all 'private' parking spaces, only those available to the public



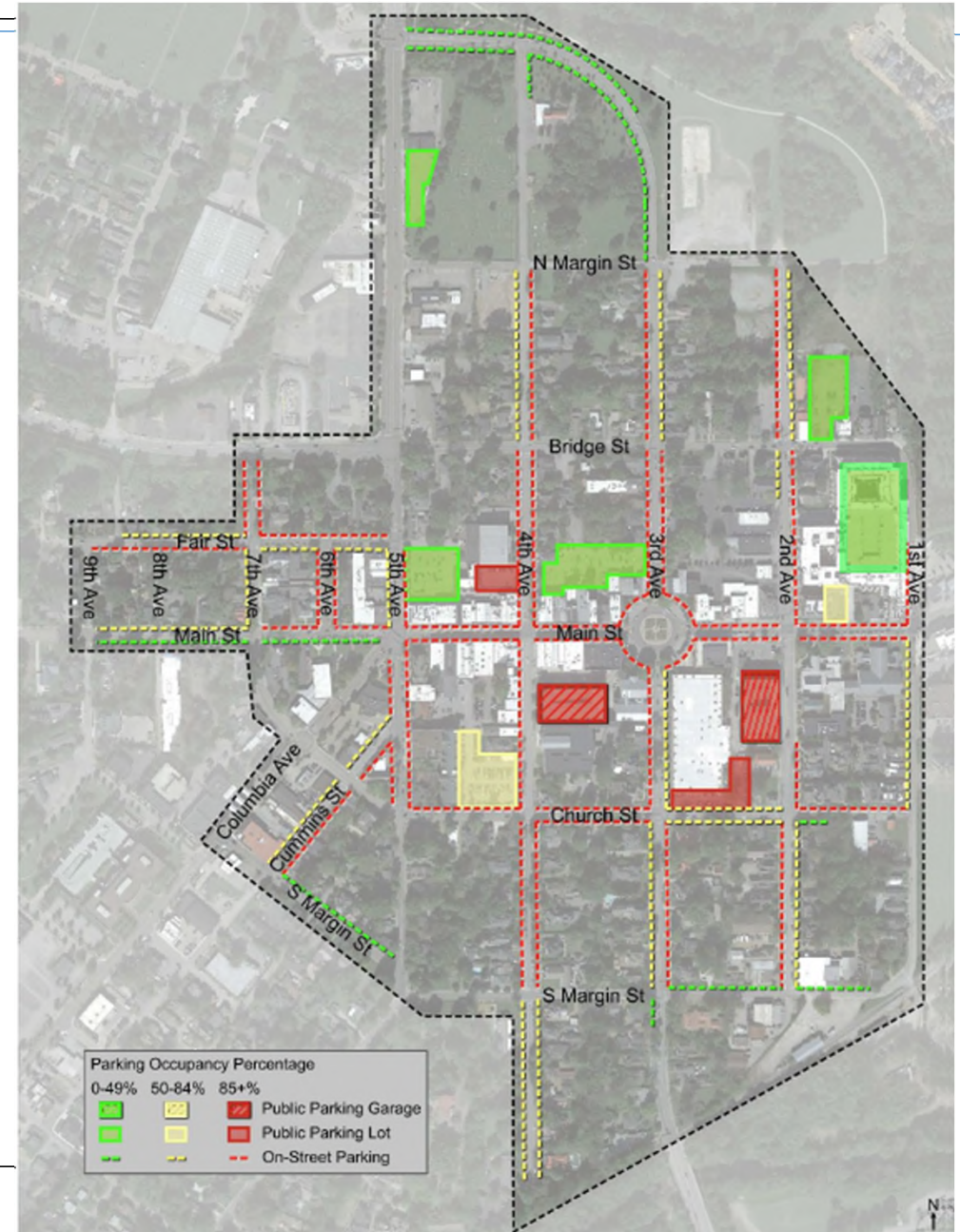
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Downtown Core Area Study – Parking Occupancy

Parking Occupancy

	Total Available	Thursday Midday % Occupied	Friday Midday % Occupied
On-Street	755	77%	78%
2nd Avenue Garage	252	95%	93%
4th Avenue Garage	345	97%	98%
Public Lots	90	57%	58%
Private (Pay) Lots	356	50%	53%
Harpeth Hotel (Pay)	367	4%	3%

- **Weekday Peak (12:30 pm)**
 - 65% Total Spaces Occupied
 - 83% 'Free' Spaces Occupied
- **Weekend Peak (12:30 pm)**
 - 49% Total Spaces Occupied
 - 66% 'Free' Spaces Occupied



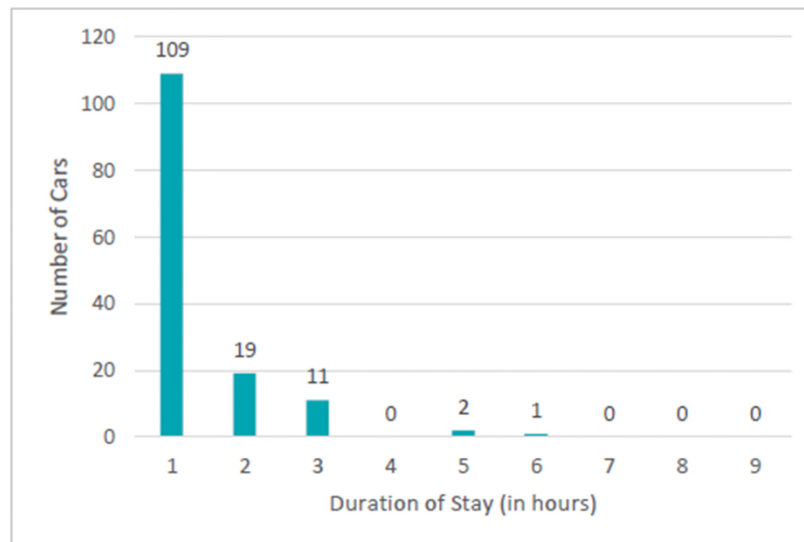
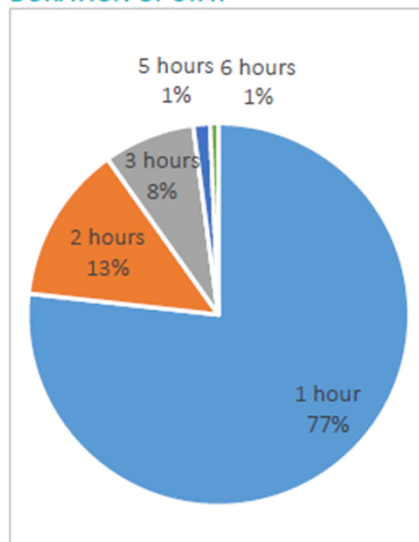
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Downtown Core Area Study – Parking Duration

- **2022: 90% of time limit spaces staying 2 hours or less (90% compliance)**
 - Approximately 70% of time-limited spaces are staying 1 hour or less
- **2016: In comparison, 70% of time limited spaces were 2 hours or less**
 - Approximately 50% of time-limited spaces stayed 1 hour or less

Turnover of these spaces has increased since going to 2-hour time limit

DURATION OF STAY



Duration of vehicles parked around the square shown above

City of Franklin, Tennessee

Downtown Core Area Study – Short-Term Recommendations

- Signal Timing [Downtown]
 - “Balanced Timing” to reduce pedestrian delay
 - Does not ‘favor’ vehicle flow, like most other parts of the City
 - Will be revisited/retimed within the next year
- Dynamic Message Signing – *not well received*
 - Direct and/or notify visitors about parking garages and availability
 - Full display (larger sign shown on right) for event info and/or other information
 - \$25,000 - \$30,000 each (furnish and install of larger sign)
 - Mast arms will likely need replacing (add \$60,000+ each installation)



Source: Daktronics



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Downtown Core Area Study – Long Term Discussion/Solutions

- Parking
 - Balance of private(pay) versus free parking
- One-Way Streets
 - Better vehicle flow, but increases speeds
 - All-way stops would need to be eliminated (convert to signals or removed)
 - Changes character of downtown
- Geometric Improvements (adding lanes)
 - No Right-Of-Way to widen
 - Could eliminate on-street parking to add/lengthen lanes
- Further Reduce Cut-Through Traffic
 - Create 'new' routes/bridges around downtown - \$\$\$\$
 - Promote school bus ridership
 - New middle school? (east side)



City of Franklin, Tennessee

Downtown Core Area Study – Summary

Summary

- Each O-D Software ~ \$10,000 (per project)
- Parking Study ~ \$30,000 (occupation/duration study)

- Streetlight - 1 year, 50 gates
- SMATS - 3 months, unlimited 'gates or areas'

- Streetlight Puts all Days and Time periods in on CSV.
- SMATS separates them out into different CSV.
- SMATS shows the actual vehicle route.

- **SMATS – Simpler, less powerful**
- **Streetlight – More sophisticated**
- **RITIS – Learning/Beta; Promising but needs more testing/training**



City of Franklin, Tennessee

Downtown Core Area Study – Long Term Discussion/Solutions

Questions?