• Problem Statement

• Regional Parking Demand

• Upper Kirby Local Parking Demand and Supply

• Upper Kirby Parking Survey Results

• Next Steps
**Problem Statement 1: Regional Parking Demand**
Travelers making work and non-work trips to the Central Business District (CBD) and the Texas Medical Center (TMC) pay premium parking rates resulting in the potential for the District to house a peripheral park and ride to these major destinations.

**Problem Statement 2: Local Parking Demand and Supply**
Current parking supply cannot accommodate parking demand, which is resulting in patrons seeking parking in residential neighborhoods or otherwise taking business elsewhere.
Methodology

- Solve two equations
  - Equation 1 - How many auto trips are traveling from capture market area to destination area (trip flow)
  - Equation 2 - What percentage of the trip flow would use transit (modal split)
REGIONAL PARKING DEMAND

Trip Flow

- Origin Areas
  - Residential areas a 3-5 miles downstream from the UKD Transit Center; parabolic shape, no more than a 3-5 miles and not to encroaching upon an existing METRO origin market area (inside loop 610)

- Destination Areas
  - CBD & TMC

- Primary Data Source
  - Production/attraction trip table from the H-GAC Travel Demand Model received from H-GAC staff in 4th Quarter 2018
REGIONAL PARKING DEMAND

CBD Daily One-Way Trip Flow
3,000 work & 2,150 non-work trips

Regional Parking Demand Analysis
For Upper Kirby
REGIONAL PARKING DEMAND

TMC Daily One-Way Trip Flow
2,750 work & 6,750 non-work trips
Modal Split - Binomial Logit Model

- Daily Competitive Advantage for Transit (Transit Demand Drivers)

<table>
<thead>
<tr>
<th>Destination</th>
<th>Daily Travel Time</th>
<th>Daily Parking Costs Savings</th>
<th>Daily Travel Costs Savings</th>
<th>Bias for Auto (based on Income)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBD</td>
<td>None</td>
<td>approx. $10.00</td>
<td>None</td>
<td>Very High</td>
</tr>
<tr>
<td>TMC</td>
<td>None</td>
<td>approx. $12.00</td>
<td>None</td>
<td>Very High</td>
</tr>
</tbody>
</table>

- Primary Data Sources
  - Transit Model Split: Modal FTA instructed Binomial Logit Model developed for the United States Department of Transportation
  - Parking Rates and Subsidies: 2013 Houston Downtown Commuter Survey Report
  - Parking Rates: 2018 Texas Medical Center Parking Rates

- Modal Split
  - ~1% for HBW auto trips
  - >1% for NHBW auto trips
REGIONAL PARKING DEMAND

Findings

• The HBW and HBNW auto users that travel from the origin market areas to the CBD and TMC are typically of higher income brackets.

• Daily travel time for auto is about 35 minutes less to the CBD and 25 minutes less to the TMC

• Low transit modal split

• Therefore, about 70 spaces parking demand for a peripheral park and ride

• Recommendation:
  • Demand tied to fixed-route service does not warrant a peripheral parking location
  • METRO Next Plan proposed to offer BRT service along Richmond
  • Coordinate meeting with Houston METRO to understand BRT plans, parking options, TOD development, and partnership opportunities with District
REGIONAL PARKING DEMAND

HOWEVER - METRO Long Range Plan
Parking Demand

- Parking Demand
  - Non Single Family Residential
  - Weekday
  - Peak Period
  - 100% Occupancy

- Primary Data Sources
  - 2018 Harris County Appraisal District
  - 4th Generation Institute of Transportation Engineers (ITE) Parking Generation Manual
  - City of Houston Parking Code

- Findings
  - ~40% shopping/restaurants, ~25% office, ~20% apartment
  - Parking Demand = 30,000 spaces
Parking Supply

- Parking Supply
  - Non Single Family Residential

- Primary Data Sources
  - Field Work
  - 2018 Harris County Appraisal District

- Findings
  - 28,000 off-street
  - 2,500 on-street
  - Parking Supply = 30,500 parking spaces
Parking Equilibrium

- The supply of parking meets the demand of parking district wide
- At a city block level there are areas of parking shortages and deficits
- Uses typically do not share parking
  - Therefore, micro areas may contain parking shortages by use
UPPER KIRBY PARKING SURVEY

Public Outreach Overview

• Distributed via Facebook, NextDoor, District C assistance, direct e-blasts, door knocking

• Incentivized via $100 gift card; boosted ads on Facebook

• 43% mobile / 57% web-based completion

• 258 participants
UPPER KIRBY PARKING SURVEY

Results – Home/Work

- ~45% of Respondents live in Upper Kirby (n227)
- ~28% of Respondents work in Upper Kirby (n179)
## UPPER KIRBY SURVEY RESULTS - PROBLEM AREAS

<table>
<thead>
<tr>
<th>Area Id</th>
<th>Area Name</th>
<th>Analysis</th>
<th>Area Survey Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Levy Park</td>
<td>Parking Availability</td>
<td>72</td>
</tr>
<tr>
<td>2</td>
<td>Revere and Alabama @ Aka Sushi</td>
<td>Parking Availability</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>Westpark and Buffalo Speedway @ HEB</td>
<td>Parking Availability</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>W. Main between Kirby and Morningside</td>
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</tr>
<tr>
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</tr>
<tr>
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</tr>
<tr>
<td>8</td>
<td>Kirby and Alabama @ Whole Foods</td>
<td>Parking Availability</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>Shepherd and Alabama @ Trader Joe’s</td>
<td>Parking Availability</td>
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<td>10</td>
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### Survey Hot Spots

**Survey Indicated Severity**
- Low
- Medium
- High

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Upper Kirby Parking Study - Parking Study City Block Demand/Supply
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Survey Hot Spots

Survey Indicated Severity
- Green: Low
- Orange: Medium
- Red: High

Upper Kirby Management District

Upper Kirby Parking Study - Parking Study City Block Demand/Supply
Deeper Dive: Top 5 Survey Indicated, Parking Problem Areas

Levy Park

- ITE Data Results
  - Macro Level (0.5 Miles) .......... Parking Surplus
  - City Block Level .................... Parking Deficit

- Survey Indicated Problems
  - 25% of respondents indicated that Levy Park is an area of parking concern
  - On-Street parking availability (mostly weekend afternoons)
  - Wayfinding to structured parking
  - Congestion on Eastside

- Potential Solutions
  - Enhanced wayfinding
  - Subsidization of spaces in the Midway garage (300 park spaces + 600 shared) @ $2/hr
  - Additional transit tie into future Richmond BRT as component of METRO Next plan
Deeper Dive: Top 5 Survey Indicated, Parking Problem Areas

Revere and Alabama @ Aka Sushi

- ITE Data Results
  - Macro Level (0.5 Miles)........Parking Deficit
  - City Block Level .....................Parking Deficit

- Survey Indicated Problems
  - Overflow to residential areas
  - Busy during peak dining hours

- Potential Solutions
  - Valet service to utilize River Oaks Bank structured parking (adjacent to Revere)
Deeper Dive: Top 5 Survey Indicated, Parking Problem Areas

Westpark and Buffalo Speedway @ HEB

• ITE Data Results
  • Macro Level (0.5 Miles) ........ Parking Surplus
  • City Block Level ...................... Parking Deficit

• Survey Indicated Problems
  • Busy during peak hours – Saturdays

• Potential Solutions
  • New proposed H-E-B on Kirby will likely reduce demand at this location, which may solve or mitigate the parking problem.
Deeper Dive: Top 5 Survey Indicated, Parking Problem Areas

W. Main between Kirby and Morningside

- ITE Data Results
  - Macro Level (0.5 Miles)........Parking Deficit
  - City Block Level ......................Parking Deficit

- Survey Indicated Problems
  - Busy during peak hours
  - Overflow to neighborhood due to valet (NRL Mortgage)

- Potential Solutions
  - Structured parking available at adjacent Kirby Collection and River Oaks garage (adjacent to Revere)
  - Permitting and other restrictions could be coordinated with the City Department of Parking Management.
UPPER KIRBY PARKING ANALYSIS

Deeper Dive: Top 5 Survey Indicated, Parking Problem Areas

Kirby and Richmond @ Pappasito’s + Pappadeaux’s #5

• ITE Data Results
  • Macro Level (0.5 Miles)........Parking Deficit
  • City Block Level ................Parking Surplus

• Survey Indicated Problems
  • Strip mall does not allow Pappasito's parking.
  • Busy during peak hours
  • Overflow to neighborhood

• Potential Solutions
  • Valet could be utilized with several existing parking garages south of Richmond.
UPPER KIRBY PARKING SURVEY

Public Outreach – First/Last Mile Mode Choice

- People prefer to walk!
SUMMARY

• Problems are overwhelmingly retail and restaurant oriented. On the retail side it is larger vendors (HEB, Trader Joe’s, etc.) On the restaurant side, the trend is generally that those who chose to locate in strip style retail are most adversely affected.

• Most others can solve their problem with valet parking and review of available parking indicates there are office-oriented structured parking that could be used by the valets. The key finding is that parking is not so much an issue so much is that **FREE, AVAILABLE, AND FRONTED** parking is not always available.

• A few targeted overflow issues could help residents but could potentially inconvenience commercial business.

• Based on the responses, even though a circulator is viewed as a semi-attractive option, the intra-district density (commercial to restaurant) is not great enough to support a lunchtime circulator. In reviewing data for the downtown Greenlink, it is used **primarily** from 11:15 a.m. to 1:30 p.m.
Next Steps

- Both the **quantitative** and **qualitative** data overwhelmingly pointed towards Levy Park.
- Meet with current parking garage owners to discuss various wayfinding options.
- Recommend further discussion for subsidized parking for park patrons.
- Consider coordination with City of Houston Parking Management on neighborhood issues.
- Coordinate with METRO re: BRT station.