Jackson Citywide Transportation Plan

Presentation to
Mayor and Board of Aldermen
January 8, 2018
Introduction

• Last citywide transportation study performed in 2003

• Significant strides since then:
  • Partnering with MoDOT on Route 34/72 widening
  • US 61 improvements through Uptown Jackson including roundabout
  • E. Main Street Extension to I-55
  • Various spot improvements along Jackson Boulevard
Planning History

• Current Plans
  • Jackson Comprehensive Traffic Study (2003)
  • City of Jackson Comprehensive Plan (2009)
  • Parks Master Plan (2014)
Planning History

• Study Goals
  • Update on efforts since 2003
  • Address existing traffic issues and concerns
  • Review long-range transportation plan to match anticipated growth pattern
  • Revisit the City’s engineering guidelines to include current best practices
Existing Conditions Analysis

- Traffic Volumes
- Street Network
- Inventory
- Safety
Traffic Volumes:

Count Locations

1 - West Lane & Oak Street
2 - East Lane & Oak Street
3 - Farmington Road & Oak Street
4 - W Main Street & Missouri Street
5 - US 61 & Deerwood Drive
6 - Georgia Street & E Main Street
7 - W Main & Farmington Road
8 - Broadridge & Independence

24-hour Mechanical Counts
A - S Georgia Street south of E Jefferson St
B - E Main Street east of Lacey
C - N Farmington Road north of W Main Street
D - Independence west of US 61
E - High St south of Harmony Lane
F - Greensferry north of Eastview Ct
G - Broadridge north of Alpine Dr
H - Shawnee south of Vera Wagner
Traffic Volumes

- Average annual population growth rate is 1.44% per year (22% since 2003)
- Mostly low or no traffic growth, sometimes negative
- Except Main Street!

<table>
<thead>
<tr>
<th>Intersection or Segment</th>
<th>Annual Growth Rate</th>
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<tbody>
<tr>
<td>E. Main St east of Lacey St</td>
<td>12.32%</td>
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<tr>
<td>SR D west of US 61</td>
<td>0.24%</td>
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<tr>
<td>US 61 &amp; SR D</td>
<td>-0.96%</td>
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<tr>
<td>E. Main St &amp; Georgia St</td>
<td>1.80%</td>
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<tr>
<td>W. Jackson Blvd &amp; SR PP</td>
<td>-0.53%</td>
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<tr>
<td>US 61 &amp; Jackson Blvd</td>
<td>-0.44%</td>
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<tr>
<td>E. Jackson Blvd &amp; Shawnee Blvd</td>
<td>0.20%</td>
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<tr>
<td>E. Jackson Blvd &amp; Walton Dr</td>
<td>-0.18%</td>
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<tr>
<td>US 61 &amp; Main St</td>
<td>-0.97%</td>
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</table>
Inventory: Functional Classification

- Discrepancies (SEMPO, MoDOT, City Planning) identified
- Changes suggested based on traffic levels and recommended accessibility
Inventory: Multi-modal Network

• Several trails constructed in recent years; goal is connectivity
• Sidewalks are severely lacking
  • Could exacerbate school dismissal vehicular delays
• No marked bicycle routes; Bicyclists legally share the road and are allowed on trails
Safety

- No crash rates higher than the statewide average
- Constant number and severity of crashes
  - 76% on MoDOT routes
  - 30% on Jackson Blvd

<table>
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<tr>
<th>Year</th>
<th>Fatal</th>
<th>Injury</th>
<th>PDO</th>
<th>Total</th>
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<tr>
<td>2012</td>
<td>1</td>
<td>54</td>
<td>313</td>
<td>368</td>
</tr>
<tr>
<td>2013</td>
<td>1</td>
<td>58</td>
<td>339</td>
<td>398</td>
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<tr>
<td>2014</td>
<td>0</td>
<td>46</td>
<td>333</td>
<td>379</td>
</tr>
<tr>
<td>2015</td>
<td>1</td>
<td>68</td>
<td>298</td>
<td>367</td>
</tr>
<tr>
<td>2016</td>
<td>2</td>
<td>58</td>
<td>332</td>
<td>392</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>284</td>
<td>1,615</td>
<td>1,904</td>
</tr>
</tbody>
</table>
Identified Issues and Concerns
Identified Issues and Concerns

1. Parking on arterials and collectors
2. W Main St & Farmington Rd
3. Farmington Rd & Oak St
4. US 61 & Independence
5. Oak St near Elementary and Junior High Schools *
6. Middle School on Independence *
7. Elementary School on Orchard Dr *
8. E Jackson Blvd and Donna Dr
9. US 61 & Deerwood Dr
10. S Georgia & E Adams St
11. US 61 & Mary St
12. Circulation in City Park (closure of Cascade Drive at US 61)
13. E Main St sidewalk between Traveler’s Way and Oak Hill Rd
   - Coordinates with TEAP Study Recommendations
14. Right-of-way Procurement
15. W Main Street Roughness

* General school planning issues at multiple campuses
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Parking on arterial and collectors

• Recommendation:
  • Prohibit on-street parking on all arterials except Main Street through Uptown
  • Allow on collector roads on a case-by-case basis
    • Consider vehicular speeds, volume, Right-Of-Way, land use characteristics of surrounding properties

• Use curb extensions when on-street parallel parking is allowed
US 61 & Deerwood Drive Recommendations

• Morning peak worse than afternoon
  • Overall LOS D (US 61 LOS A, Deerwood LOS F)
• Signal Feasibility
  • Signal not quite warranted yet
  • Warranted if Deerwood is extended west or additional development occurs
• Potential Intermediate Improvements
  • Restripe eastbound/westbound to 3 lanes
  • Install high-visibility crosswalk
  • Consider a HAWK signal to assist pedestrians
US 61 & Mary Street Recommendations

• Perform a speed study to determine if a relocation of the speed limit sign is justified
• Consider alternative safety measures
  • Overhead warning lights at the intersection, or
  • Intersection Conflict Warning Signal (ICWS)
• Long term solution:
  • Realign the east leg of the intersection to the north to remove the east-west offset
Circulation in City Park with closure of Cascade Drive at US 61

• **Issues:**
  • Safety concerns (speeding, trail bridge too close to intersection)
  • Lack of sidewalks along Cascade Dr
  • Sightline concerns due to retaining wall

• **Closure is recommended:**
  • Reduces cut-through traffic and speeding through park
  • Increases safety for bikes/peds
  • Access through neighborhood, negligible impact on circulation
E Main Street sidewalk between Traveler’s Way and Oak Hill Road

- Provide pedestrian facilities on north side
- Recommend:
  - 5’ concrete sidewalk with a 2’ separation from curb
- Signal at Oak Hill slated for construction in 2018
West Main Street Roughness

• Potential Improvement Strategies
  • Asphalt Overlay (1-2”)
    • Pavement Reinforcing Fabric
    • Pavement Reinforcing Grid
  • Microsurface Treatment
  • Slab Replacements
  • Reconstruction
Engineering Guidelines
Engineering Guidelines

- Street Design Guidelines
- Bicycle and Pedestrian Systems
- Signals and Roundabouts
  - Flashing Yellow Arrows
- Access Management
Traffic Forecasting

- Trip Generation
- Directional Distribution
- Forecasted Volumes
- LOS
Trip Generation

• SEMPO Sustained Growth Plan was used as a probable future land use scenario

• Anticipates growth under three land uses:
  • low-density residential
  • commercial
  • light industrial

• Trip generation forecasted using the ITE Trip Generation Manual, Ninth Edition
Forecasted Volumes
Forecasted Volumes

A       B       C       D       E       F       G       H       J1      J2      J3
Existing ADTs  Forecasted ADTs
Existing Levels of Service
Proposals

• Major Street Plan
• Proposed (New) Streets
• Roads to be downgraded
• Project Prioritization (Table)
Major Street Plan

• Goals when evaluating Plan:
  1. Provide **circumferential connectivity** via a new system of arterial roadways;
  2. Extend existing collector roadways to logical endpoints to provide better connectivity through the City and adjacent areas;
  3. Provide access to areas that are likely to see new development within the next 20 to 25 years;
Major Street Plan

• Goals when evaluating Plan:
  4. Remove redundant collectors or those that do not provide appropriate connectivity to allow for traffic calming and other improvements to improve bicycle and pedestrian infrastructure;
  5. Address existing traffic and environmental constraints and barriers to provide more direct travel paths through the City; and
  6. Provide an appropriate scale of planned roadways that are more in line with growth areas in the City’s Comprehensive Plan and SEMPO identified growth areas.
CITY of JACKSON
AND SURROUNDING AREA

MAJOR STREET PLAN
2014
Proposed Near North Connector

• Provides another direct connection through central Jackson;
• Provides alternate route for East Main St; and
• Provides a new bridge over Goose Creek
Proposed Streets & Roads to be Downgraded
## Project Prioritization

<table>
<thead>
<tr>
<th>Priority</th>
<th>Roadway</th>
<th>Cost</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
<td>Near North Connector</td>
<td>$2.5M</td>
<td>Downgrade Hope (Mary to Washington) to Local Roadway</td>
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<tr>
<td></td>
<td>Old Cape Road</td>
<td>$7.0M</td>
<td>Downgrade remnant of Old Cape</td>
</tr>
<tr>
<td></td>
<td>Oak Hill Road (South)</td>
<td>$8.3M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>West Lane (South)</td>
<td>$4.2M</td>
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<tr>
<td><strong>Medium</strong></td>
<td>Oak Hill Road (North)</td>
<td>$1.6M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cane Creek Road</td>
<td>$6.5M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>West Lane (North)</td>
<td>$1.0M</td>
<td>Downgrade Broadridge to Local Roadway</td>
</tr>
<tr>
<td></td>
<td>Independence Street (East)</td>
<td>$1.4M</td>
<td>Downgrade remnant of Independence Street</td>
</tr>
<tr>
<td></td>
<td>Deerwood Drive (West)</td>
<td>$3.6M</td>
<td></td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>Brittany Drive</td>
<td>$7.4M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Independence Street (West)</td>
<td>$9.7M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kimbel Lane/Donna Drive</td>
<td>$5.2M</td>
<td>Downgrade remnant of Bainbridge Road</td>
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<tr>
<td></td>
<td>Oak Street</td>
<td>$5.6M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deerwood Drive (East)</td>
<td>$3.7M</td>
<td></td>
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<tr>
<td><strong>Top Study Priorities</strong></td>
<td>Northern Arterial Corridor Study</td>
<td>-</td>
<td>Study would determine timeframe for further investment</td>
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<tr>
<td></td>
<td>Southern Arterial Corridor Study</td>
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<td>Old Orchard Road (North)</td>
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**Top Study Priorities**
- Northern Arterial Corridor Study
- Southern Arterial Corridor Study
- Old Orchard Road (North)
Jackson Major Street Plan

Proposed Roadways

- Proposed Arterial
- Proposed Collector
- Downgrade to Local Roadway

Potential Corridor Alignments

- Potential Arterial Alignment
- Potential Collector Alignment

Existing Roadways

- Arterial
- Collector
- Local
- Interstate 55
- Parcels
- City Boundary

Footnotes:

1. The proposed north-south configurations of Dale St, Mary St, Near St, Forecast St, and Near Avenue.
2. Washington St may be upgraded to a local roadway because it is too close to commercial to be a road.
3. The portion of Old Cape Rd between Jones Dr and S Royal Rd is planned to be an arterial and the corridor of the New South Connector.
4. Potential Collector Alignment.
5. The portion of Old Cape Rd between Old Cape Rd and Jones Dr would be upgraded to a local roadway with the completion of the north-south Connector.
6. The proposed north-south configurations of the Old Cape Rd between Jones Dr and S Royal Rd would be upgraded to a local roadway with the completion of the north-south Connector.
Thank you!