Orleans Parking & Circulation Study

Future Conditions Analysis & Recommended Next Steps

Orleans Planning Board
September 12, 2017
Agenda

• Introduction
• Project Overview
  - Project Purpose
  - Project Tasks
  - Contributions to previous work
• Future Conditions Analysis
  - Risking
  - Environment
• Improvement Options

INTRODUCTION
Cape Cod Commission Team

- Leslie Richardson, Economic Development (PM)
- Steven Tupper, Transportation
- Glenn Cannon, Transportation
- Lev Malakhoff, Transportation
- Patrick Tierney, Transportation (former staff)
- Sharon Rooney, Planning & Landscape Arch.
- Martha Hesenhon, Planning

Meeting Goal

To present the potential impact of future development scenarios on parking and circulation in the Orleans Village Center and to present recommended next steps
The goal of this project is to identify improvements to parking and circulation that will increase safety for pedestrians, bicyclists and vehicle drivers, encourage commerce, and enhance community character in the Village Center.
Project Study Area

Project Tasks

- Background Research
- Data Collection & Inventory
- Existing Conditions Assessment
- Future Conditions Analysis
- Improvement Options
- Draft & Final Report
Previous Work

- 2004 Parking and Circulation Study (Nitsch Engineering)
- 2011 Village Center Streetscape Plan (CCCommission)
- 2015 Route 6a Corridor RESET Project (CCCommission)
- 2014 Cape-wide Market Studies (Chesapeake)
- 2010 Economic Analysis of the Village Center (FinePoint)
- 2015 Orleans Town Center Economic Analysis (FinePoint)

- Identified problem intersections
- Identified streetscape elements that would improve vehicular and pedestrian circulation
- Identified the need to add residential development in the Village Center
- Found that additional commercial space did not need to be added but could be centralized
- Found that more community spaces are needed in the Village Center
FUTURE CONDITIONS ANALYSIS

Future Conditions Analysis

- How will future development impact parking demand and intersection performance in the Village Center?
  - Step 1: Review current pressure points
  - Step 2: Establish a set of growth scenarios to analyze
  - Step 3: Run models to estimate scenario impacts
  - Step 4: Identify potential steps to accommodate impacts of preferred scenario
Future Development Scenarios

- Full-buildout using amended zoning indicates a potential for up to 2,600 new residential units.
- Considering historic traffic trends, site constraints, and market realities, the following scenarios were selected for analysis:

<table>
<thead>
<tr>
<th>Scenario – 20 Years</th>
<th>Annual Background Growth</th>
<th>Additional Residential Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>2037 No Build</td>
<td>1%</td>
<td>-</td>
</tr>
<tr>
<td>2037 Build – Scenario A</td>
<td>1%</td>
<td>200 units Located in the core of the Village Center</td>
</tr>
<tr>
<td>2037 Build – Scenario B</td>
<td>1%</td>
<td>1,000 units Located across the area subject to amended zoning</td>
</tr>
</tbody>
</table>

 Existing Conditions/No Build

- Existing Units (800)

Note: Unit locations are illustrative and do not represent actual development proposals.
Future Development Scenarios

**Scenario A**
- Existing Units (800)
- New Residential Units Analyzed (200)

Note: Unit locations are illustrative and do not represent actual development proposals.

**Scenario B**
- Existing Units (800)
- New Residential Units Analyzed (1,000)

Note: Unit locations are illustrative and do not represent actual development proposals.
Parking

What is the total available parking spaces in the Village Center, both on-street and off-street?

Parking

How much is public? How much is private?
Parking

What is the current level of parking use by location at different times of day in both the spring and the summer peak hours?

Parking – Today

What is the total available parking spaces in the Village Center, both on-street and off-street? How much is public? How much is private?

- There are 1,596 parking spaces in the study area
- 14% of parking is public including on-street parking
- The remaining 86% of parking is provided by individual property owners in private lots
Parking – Today

What is the current level of parking use by location at different times of day in both the spring and the summer peak hours?

- Very few parking areas exceed 70% occupancy even during the peak summer season
- Only three parking areas fill up during busy days
  - Chocolate Sparrow/CVS at midday
  - Sunbird/Cranberry Highway Plaza at midday
  - Land Ho/Bank Lot in the evening

Parking - Occupancy

Peak Season:
July 28th
Thursday
12-2 PM

*Effectively full
(Greater than 85%)

Note: Names associated with each lot names are shown for reference only and do not reflect ownership nor attempt to identify all businesses that utilize the lot.
Parking - Occupancy

Peak Season:
July 30th
Saturday
5-7 PM

Effectively full
(Greater than 85%)

Note: Names associated with each lot names are shown for reference only and do not reflect ownership or attempt to identify all businesses that utilize the lot.

Parking – Today

• Overall, there is more than enough parking in the Village Center to meet current demand
  ➢ Parking lots could be better designed and signed
  ➢ Zoning requirements for on-site parking could be reduced
    – if applied to existing development, regulations would result in about 500 or 28% more parking spaces than exist today
Parking – Tomorrow

- New residential development under either growth scenario will not adversely effect parking in the Village Center, given the following factors:
  - Excess parking capacity already exists
  - Residential and most commercial uses need parking at different times of day
  - On-site parking requirements for new residential units will easily meet any new demand

Circulation

How well are intersections in the Village Center working for cars, bikes, and pedestrians in terms of safety and time delay at intersections (level of service)?
Circulation - Today

How well are intersections in the Village Center working for cars, bikes, and pedestrians in terms of safety and time delay at intersections (level of service)?

- Compared to similar areas, there are relatively few crashes
- The intersections in the Village Center generally function well
- Four of the six intersection studied are being upgraded, including the traffic signals, as part of a current MassDOT project.

Circulation - Safety

Number of Crashes
(2010-2014)

- Single crash
- Multiple crashes

Source: Massachusetts RMV, locations approximate
Note: Draft findings subject to change with further analysis
### Circulation – Level of Service (LOS)

#### Existing Conditions
- **2017 Summer**
- **4-5 PM Analysis**

**Signalized Intersections**
- X

**Un-signalized Intersections (worst approach)**
- X

Note: Excludes illegal movements.

#### Circulation - Tomorrow

How well are intersections in the Village Center working for cars, bikes, and pedestrians in terms of safety and time delay at intersections (level of service)?

- **2017 Existing Conditions -> 2037 No Build** (effect of 1% annual traffic growth)
  - Negligible impact to traffic signals (this reflects the new MassDOT signals in place)
  - Minor impact to un-signalized intersections

➤ Likely no major upgrades needed
Circulation – Level of Service (LOS)

<table>
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<th>Signalized Intersections: Overall LOS</th>
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<tbody>
<tr>
<td>Route 6A at Main Street</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Route 28 at Main Street</td>
<td>C</td>
<td>D</td>
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<td>D</td>
<td>E</td>
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Circulation - Tomorrow

How well are intersections in the Village Center working for cars, bikes, and pedestrians in terms of safety and time delay at intersections (level of service)?

- 2037 No Build to 2037 Build Scenario A (200 units)
  - Negligible impacts

- 2037 No Build to 2037 Build Scenario B (1,000 units)
  - Negligible impact to traffic signals
  - Minor impact to unsignalized intersections

➢ No need for major upgrades foreseen for either scenario.
Circulation – Level of Service (LOS)

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Future Conditions Analysis - Notes

- Depending on the location and size, large residential developments may cause larger localized impacts.
- The impacts of future development can be minimized by:
  - Minimizing curb cuts;
  - Good driveway and site design (small blocks);
  - Shared parking and infrastructure; and
  - Safe and convenient pedestrian, bicyclist, and transit user accommodation.
The parking and circulation system functions well today and can easily manage increased residential development, even and probably especially if the housing is highly concentrated in the village core.
Key Findings

Parking
- The amount of parking is sufficient but could benefit from improved signage, layout, and pedestrian connections to store fronts

Circulation
- The circulation system, with the improvements underway, is safe and moves traffic efficiently with some expected seasonal congestion but could benefit from breaking up large blocks, signage, & bike/ped. accommodations

Recommended Next Steps

How can the circulation and provision of parking be improved to accommodate current and future demand?
Next Steps - Parking

- Improve Parking Lot Design & Signage
  - Adopt design guidelines for site design, landscaping and stormwater management
  - Add signs to direct vehicles to available parking and create pedestrian connections from parking to store fronts

- Establish Business Improvement District
  - To facilitate cooperative management of parking and fund design upgrades and signage

- Update Parking Regulations
  - To encourage shared parking, reduce excess parking and impervious surface and advance alternative modes of travel

Envisioning the Possible...

Final graphic to be inserted
Envisioning the Possible...

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Envisioning the Possible...

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Next Steps - Circulation

- Consider making a portion of Brewster Cross Road one-way and improve intersections at:
  - Brewster Cross Road and Route 6A
  - Brewster Cross Road and Main Street
- Implement Signage, Bike/Ped. and Landscaping Recommendations in the Streetscape Plan
- Improve Walkability through Design Guidelines addressing urban form, building location, and building style

Envisioning the Possible...

- Brewster Cross Road – One Way Schematic

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- Use landscaping (LID) to manage stormwater
- Consistent paving treatments to improve wayfinding and crosswalk safety
- Better notice on-street parking
- Use landscaping to define street edge and improve pedestrian comfort and safety
- Consider through streets, alleys, and pathways for increased walkability
- Add signs for parking lots, create bike-ways, and adopt design guidelines for signage

Deliverable

Parking & Circulation Final Report

- The draft is complete pending:
  1. A third growth scenario if the Board is interested
  2. Board feedback on the six recommended next steps:
     1. Re-design Parking & Add Signage
     2. Establish a BID
     3. Update Parking Regulations
     4. Brewster Cross Intersections
     5. Implement the Streetscape Plan
     6. Adopt Design Guidelines