AGENDA FOR THE MEETING OF THE
BOARD OF SELECTMEN
JANUARY 28, 2015 - 6:00 PM
PUBLIC SAFETY FACILITY COMMUNITY ROOM
4 FAIRGROUNDS ROAD
NANTUCKET, MASSACHUSETTS
***AMENDED JANUARY 26, 2015***

I. BOARD ACCEPTANCE OF AGENDA

II. ANNOUNCEMENTS

III. PUBLIC COMMENT*

IV. NEW BUSINESS*

V. APPROVAL OF MINUTES, WARRANTS AND PENDING CONTRACTS
   1. Approval of Minutes of November 12, 2014 at 5:15 PM; November 19, 2014 at 5:15 PM.
   
   
   
   4. Approval of Pending Contracts for January 28, 2015 - as Set Forth on the Spreadsheet Identified as Exhibit 1, Which Exhibit is Incorporated Herein by Reference.

VI. CITIZEN/DEPARTMENTAL REQUESTS
2. Planning Office: Request for Acceptance of Grant of "One Big Beach" Easement over a Portion of Lot 1, Willard Street.


5. Planning Office: Request for Approval to Petition the County to Discontinue a Portion of Baxter Road as a County Highway from the Westerly Sideline of Bayberry Lane Across Baxter Road to the Western Terminus of Baxter Road, the Boundaries of Said Way as Shown on Plan Entitled "County of Nantucket Road Transfer to the Town of Nantucket, Baxter Road (aka) Atlantic Street, Dated September 18, 2014," Prepared by ACKME Survey LLC and to be Recorded with Nantucket County Registry of Deeds.

VII. TOWN MANAGER’S REPORT

VIII. SELECTMEN’S REPORTS/COMMENT
1. Review of Additional NRTA Bus Services Costs.

2. Committee Reports.

IX. ADJOURNMENT

* Identified on Agenda Protocol Sheet.
Board of Selectmen Agenda Protocol:

- **Roberts Rules**: The Board of Selectmen follows *Roberts Rules of Order* to govern its meetings as per the Town Code and Charter.

- **Public Comment**: For bringing matters of public interest to the attention of the Board. The Board welcomes concise statements on matters that are within the purview of the Board of Selectmen. At the Board's discretion, matters raised under Public Comment may be directed to Town Administration or may be placed on a future agenda, allowing all viewpoints to be represented before the Board takes action. Except in emergencies, the Board will not normally take any other action on Public Comment. Any personal remarks or interrogation or any matter that appears on the regular agenda are not appropriate for Public Comment.

  Public Comment is not to be used to present charges or complaints against any specifically named individual, public or private; instead, all such charges or complaints should be presented in writing to the Town Manager who can then give notice and an opportunity to be heard to the named individual as per MGL Ch. 39, § 23B.

- **New Business**: For topics not reasonably anticipated 48 hours in advance of the meeting.

- **Public Participation**: The Board welcomes valuable input from the public at appropriate times during the meeting with recognition by the Chair. For appropriate agenda items, the Chair will introduce the item and take public input. Individual Selectmen may have questions on the clarity of information presented. The Board will hear any staff input and then deliberate on a course of action.

- **Selectmen Report and Comment**: Individual Selectmen may have matters to bring to the attention of the Board. If the matter contemplates action by the Board, Selectmen will consult with the Chair and/or Town Manager in advance and provide any needed information by the Thursday before the meeting. Otherwise, except in emergencies, the Board will not normally take action on Selectmen Comment.
<table>
<thead>
<tr>
<th>Type of Agreement/Description</th>
<th>Department</th>
<th>With</th>
<th>Amount</th>
<th>Other Information</th>
<th>Source of Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Agreement</td>
<td>Our Island Home</td>
<td>Pegasus Solutions, Inc.</td>
<td>$34,999</td>
<td>Medicare billing software</td>
<td>Our Island Home Professional Services Budget</td>
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<tr>
<td>Ratification of Memorandum of Agreement</td>
<td>Town Admin/Board of Selectmen</td>
<td>Police Unions (two units)</td>
<td>$62,500</td>
<td>1st year of three-year contract FY 2015 - FY 2017</td>
<td>Article 31 of 2015 Annual Town Meeting</td>
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<tr>
<td>Ratification of Memorandum of Agreement</td>
<td>Town Admin/Board of Selectmen</td>
<td>Fire Union</td>
<td>$38,600</td>
<td>1st year of three-year contract FY 2015 - FY 2017</td>
<td>Article 26 of 2015 Annual Town Meeting</td>
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<tr>
<td>Ratification of Memorandum of Agreement</td>
<td>Town Admin/Board of Selectmen</td>
<td>SEIU (Representing Our Island Home Employees)</td>
<td>$40,200</td>
<td>1st year of three-year contract FY 2015 - FY 2017</td>
<td>Article 28 of 2015 Annual Town Meeting</td>
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### Yard Sale Parcels - 1/28/2015

<table>
<thead>
<tr>
<th>Parcel</th>
<th>Purchaser</th>
<th>Purchase Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parcel K, Tristram Ave &amp; Alliance Ln</td>
<td>Rye Realty Trust</td>
<td>$5,000</td>
</tr>
<tr>
<td>Lot 1, Willard St</td>
<td>Thirty-Nine Hulbert, LLC</td>
<td>OBB, pedestrian &amp; boat storage easements</td>
</tr>
<tr>
<td>Parcel C, Naushon Way &amp; Nobadeer Ave</td>
<td>Kelley</td>
<td>$5,000</td>
</tr>
</tbody>
</table>
PURCHASE AND SALE AGREEMENT

Agreement made this _____ day of ________________, 2014.

1. PARTIES AND MAILING ADDRESSES

The Town of Nantucket, a municipal corporation acting by and through its Board of Selectmen having an address of 16 Broad Street, Nantucket, Massachusetts 02554, hereinafter called the SELLER, agrees to SELL and Robert L. Friedman of 68 Island Drive, Rye, New York 10580 and Maguid Megalli of 35 Island Drive, Rye, New York 10580, Trustees of the Rye Realty Trust under a Declaration of Trust dated September 17, 1984 recorded with Nantucket County Registry of Deeds in Book 284, Page 25, hereinafter called the BUYER or PURCHASER, agrees to BUY, upon the terms hereinafter set forth, the following described premises:

2. DESCRIPTION

The premises is a certain parcel of land in Nantucket, Massachusetts shown as Parcel K, Tristram Avenue and Alliance Lane on a plan of land entitled “Roadway Acquisition Plan in Nantucket, Mass. Of Tristram Avenue, Alliance Lane, Proprieters Road, Assessors Map 31 & 32,” prepared by Bracken Engineering, Inc., dated June 9, 2008 recorded with said Deeds as Plan No. 2009-2. Parcel K contains approximately 13,600 square feet of vacant land (the “Property” or “Premises”). The Premises is considered a non-conforming lot pursuant to the Town of Nantucket Code.

3. BUILDINGS, STRUCTURES, IMPROVEMENTS, FIXTURES

Intentionally Omitted (Vacant Land).

4. TITLE DEED

Said premises are to be conveyed by a good and sufficient quitclaim deed running to the BUYER, or to the nominee designated by the BUYER by written notice to the SELLER at least seven (7) days before the deed is to be delivered as herein provided, and said deed shall convey a good and clear record and marketable title thereto, free from encumbrances, except:

(a) Any liens for municipal betterments assessed after the date of this agreement;

(b) Laws, by-laws, rules, and regulations, whether federal, state, or local, which affect the use of the Premises, including, but not limited to, rules and regulations of the Nantucket Conservation Commission, Nantucket Zoning By-Law, Nantucket Historic District Commission, Nantucket Building Department, Nantucket Planning Board and Nantucket Board of Health;

(c) Real estate taxes for the then-current fiscal year and future periods which are not due and payable at the time of delivery of the deed;

(d) Any fee which may be imposed upon the transaction which is the subject of this
agreement by the Nantucket Land Bank Commission, which the Buyer agrees to pay at the
time of delivery of the deed;

(e) Any right, restrictions or easements and reservations of record;

(f) Any public rights existing below mean high water, if applicable;

(g) An 8’ wide pedestrian access easement and a driveway easement as shown on plan
entitled “Pedestrian Access Easement Plan in Nantucket, Mass. Off of Eel Point Road,”
prepared by Bracken Engineering, Inc. dated November 17, 2014; and

(h) Said deed shall contain a reversion clause and a restriction set forth in Section 35
below to require the Premises to be used, and effectively merged with, the BUYER’S
existing property which is 69 Eel Point Road, Nantucket, Massachusetts, and is shown as
Town Assessor’s Map 32 as Parcel 45, for residential purposes and permanently
restricting any further division or subdivision of the Premises as combined with said
existing property.

5.      PLANS

If said deed refers to a plan necessary to be recorded therewith the BUYER shall deliver such plan
with the deed in a form adequate for recording.

6.      REGISTERED TITLE

In addition to the foregoing, if the title to the said premises is registered, said deed shall be in form
sufficient to entitle the BUYER to a Certificate of Title to said premises, and the SELLER shall
deliver with said deed all instruments, if any, necessary to enable BUYER to obtain such Certificate
of Title.

7.      PURCHASE PRICE

The agreed consideration for the purchase of the Premises is Five Thousand and 00/100 Dollars
($5,000.00), of which

<table>
<thead>
<tr>
<th>Amount</th>
<th>Description</th>
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<tbody>
<tr>
<td>$250.00</td>
<td>was paid with the Proposal</td>
</tr>
<tr>
<td>$4,750.00</td>
<td>is to be paid at the time of delivery of the deed in cash, or by certified, cashier’s, treasurer’s or bank check(s).</td>
</tr>
<tr>
<td>$5,000.00</td>
<td></td>
</tr>
</tbody>
</table>

8.      TIME FOR PERFORMANCE; DELIVERY OF DEED

Said deed is to be delivered to BUYER at the Nantucket County Registry of Deeds at 1:00 P.M. on
the 18th day of December, 2014, unless otherwise agreed upon in writing. It is agreed that time is
of the essence of this agreement.
9. POSSESSION AND CONDITION OF PREMISES

Full possession of said premises free of all tenants and occupants is to be delivered at the time of 
the delivery of the deed, said Premises to be then (a) in the same condition as they are now, and 
(b) in compliance with provisions of any instrument referred to in clause 4 hereof. The BUYER 
shall be entitled to personally inspect the premises prior to the delivery of the deed in order to 
determine whether the condition of the premises complies with the terms of this clause.

10. EXTENSION TO PERFECT TITLE OR MAKE PREMISES CONFORM

If the SELLER shall be unable to give title or to make conveyance, or to deliver possession of the 
premises, all as herein stipulated, or if at the time of delivery of the deed the premises do not 
conform with the provisions hereof, then the SELLER shall use reasonable efforts to remove any 
defects in title, or to deliver possession as provided herein, or to make the said premises conform 
to the provisions hereof, as the case may be, in which event the SELLER shall give written notice 
thereof to the BUYER at or before the time for performance hereunder, and thereupon the time for 
performance hereof shall be extended for a period of thirty (30) days. In the event that such an 
extension occurs, BUYER agrees to close prior to expiration of the extension period and as soon 
as reasonably possible after SELLER is prepared to deliver the Premises in compliance with this 
Agreement. In no event shall SELLER be required to expend more than a total of $1,000.00 to 
clear title to and deliver possession of the Premises.

11. FAILURE TO PERFECT TITLE OR MAKE PREMISES CONFORM

If at the expiration of the extended time the SELLER shall have failed so to remove any defects in 
title, deliver possession, or make the premises conform, as the case may be, all as herein agreed, 
then any payments made or consideration given under this agreement shall be forthwith refunded 
and returned and all other obligations of the parties hereto shall cease and this agreement shall be 
void without recourse to the parties hereto.

12. BUYER'S ELECTION TO ACCEPT TITLE

The BUYER shall have the election, at either the original or any extended time for performance, to 
accept such title as the SELLER can deliver to the said premises in their then condition and to pay 
therefore the purchase price without deduction, in which case the SELLER shall convey such title.

13. ACCEPTANCE OF DEED

The acceptance and recording of a deed by the BUYER or his nominee as the case may be, shall 
be deemed to be a full performance and discharge of every agreement and obligation herein 
contained or expressed, except such as are, by the terms hereof, to be performed after delivery of 
said deed.

14. USE OF MONEY TO CLEAR TITLE

To enable the SELLER to make conveyance as herein provided, the SELLER may, at the time of 
delivery of the deed, use the purchase money or any portion thereof to clear the title of any or all 
encumbrances or interests, provided that all instruments so procured are recorded simultaneously
with the delivery of said deed.

15. **INSURANCE**

Intentionally Omitted (Vacant Land).

16. **ADJUSTMENTS**

A payment in lieu of taxes shall be paid in accordance with G.L. c. 44, § 63A as of the day of performance of this Agreement and the amount thereof shall be added to the purchase price payable by BUYER at the time of delivery of the deed.

17. **ADJUSTMENT OF UNASSESSED AND UNABATED TAXES**

Intentionally Omitted.

18. **BROKER’S FEE**

Intentionally Omitted.

19. **BROKER’S WARRANTY**

Intentionally Omitted.

20. **DEPOSIT**

Not applicable.

21. **BUYER’S DEFAULT; DAMAGES**

If the BUYER shall fail to fulfill the BUYER’S agreements herein, all deposits made hereunder by the BUYER shall be retained by the SELLER as liquidated damages which shall be the SELLER’S sole and exclusive remedy at law and in equity for a breach of this agreement.

22. **RELEASE BY HUSBAND OR WIFE**

Intentionally Omitted

23. **BROKER AS PARTY**

Intentionally Omitted.

24. **LIABILITY OF TRUSTEES, SHAREHOLDERS OR BENEFICIARIES**

If the SELLER or BUYER executes this agreement in a representative or fiduciary capacity, only the principal or the estate represented shall be bound, and neither the SELLER or BUYER so executing, nor any shareholder or beneficiary of any trust, shall be personally liable for any obligation, express or implied, hereunder.
25. WARRANTIES AND REPRESENTATIONS

The BUYER acknowledges that the BUYER has not been influenced to enter into this transaction nor has he relied upon any warranties or representations not set forth or incorporated in this agreement or previously made in writing, except for the following additional warranties and representations, if any, made by either the SELLER: NONE. SELLER and SELLER's agents have made no warranties or representations, express or implied, and BUYER is purchasing the premises in its “AS IS” and without inspection.

26. MORTGAGE CONTINGENCY CLAUSE

None.

27. CONSTRUCTION OF AGREEMENT

This instrument, executed in multiple counterparts, is to be construed as a Massachusetts contract, is to take effect as a sealed instrument, sets forth the entire contract between the parties, is binding upon and inures to the benefit of the parties hereto and their respective heirs, devisees, executors, administrators, successors and assigns, and may be canceled, modified or amended only by a written instrument executed by both the SELLER and the BUYER or their respective counsel. The Parties may rely upon facsimile copies of such written instruments. If two or more persons are named herein as BUYER their obligations hereunder shall be joint and several. The captions and marginal notes are used only as a matter of convenience and are not to be considered a part of this agreement or to be used in determining the intent of the parties to it.

28. TITLE STANDARDS AND CONVEYANCING PRACTICES

Any matter relating to performance of this Agreement which is the subject of a title, practice or ethical standard of the Real Estate Bar Association of Massachusetts shall be governed by such standard to the extent applicable.

29. NOTICES

All notices, demands, consents and approvals required or permitted hereunder shall be deemed to have been duly given if in writing addressed to BUYER or SELLER at:

In the case of BUYER:

Mr. Robert L. Friedman
68 Island Drive
Rye, New York 10580

And

Mr. Maguid Megalli
35 Island Drive
Rye, New York 10580

In the case of SELLER:

Town of Nantucket
Town and County Building
16 Broad Street
Nantucket, MA 02554
and shall be deemed delivered upon the earliest to occur of (a) receipt or refusal to accept delivery; or (b) upon delivery prior to 5:00 P.M. on any business day by telecopy evidenced by written or printed receipt confirmation, provided a copy of any such notice sent by telecopy is sent also by means of one of the above-described manners of delivery. BUYER and SELLER may change the address to which any notice is to be sent by giving reasonable notice to the other party of such new address in the manner specified.

30. NO BROKER WARRANTY

The parties warrant and represent each to the other that there is no broker involved with the transaction to which this agreement pertains. In the event of a breach of the foregoing representation, the breaching party shall indemnify and hold harmless the non-breaching party for all expenses, including attorney’s fees, which arise from such breach. The provisions of this section shall survive delivery of the deed hereunder.

31. SELLER’S CONTINGENCY

SELLER’S obligations hereunder shall be contingent upon SELLER complying prior to closing with the requirements of Massachusetts General Laws Chapter 30B concerning public procurement of the premises and obtaining all necessary authority to sell the premises, including but not limited to a declaration that the premises constitutes surplus property and an appropriate Town Meeting vote.

32. VENUE

The parties hereto agree that all actions on this Agreement shall be brought in the Superior Court Department of the Trial Court, Commonwealth of Massachusetts, Nantucket Division, to the extent that said Court shall have jurisdiction of the subject matter in any such action.

33. EXTENSION AUTHORITY

By executing this Agreement, Buyer and Seller hereby grant to their respective attorneys the actual authority to bind them by facsimile for the limited purpose of allowing them to grant extensions, and Buyer and Seller shall be able to rely upon the signature of said attorneys as binding unless they have actual knowledge that either party has disclaimed the authority granted herein to bind them.
34. CLOSING DOCUMENTS

BUYER agrees to sign at closing all forms reasonably required by SELLER including without limitation a disclosure statement pursuant to G.L. c. 7c, sec. 38. BUYER agrees to pay the SELLER’S legal costs incurred for closing on the Premises, including the preparation of the Quitclaim Deed.

35. MERGER OF PREMISES

BUYER shall consolidate the Premises with the BUYER’S existing abutting lots as set forth in the terms of the Request for Proposals for the “Nantucket Yard Sale Program.” This consolidation process includes but is not limited to: obtaining a special permit from the Zoning Board of Appeals to alter any premises which is a nonconforming lot pursuant to Town Code 139-33A(8) and, filing a new perimeter plan with the Nantucket Planning Board and Massachusetts Land Court, if applicable.

BUYER warrants that the Premises shall not be used as a separate buildable lot or resold as a separate buildable lot and shall be used for residential uses only. Notwithstanding any provision herein to the contrary, BUYER shall accept the deed required to be delivered pursuant to this Agreement if such deed contains permanent restrictions, held by SELLER and running with the land, to enforce such restrictions and covenants as follows:

“The grantor’s conveyance of the parcel described herein is based in part on the grantee’s warranty and representation to the grantor that such parcel shall be used for residential purposes only and shall, for all intents and purposes, be combined with and considered as one parcel with the abutting lot at 69 Eel Point Road and shown on Town Assessor’s Map 32 as Parcel 45 which was previously acquired by grantee pursuant to the deed recorded with said Deeds in Book 285, Page 283 (collectively, the “Combined Premises”), and that no part of the Combined Premises shall be hereafter divided, subdivided or conveyed as a separate parcel or parcels, unless prior written permission is granted by the Town of Nantucket Board of Selectmen and such permission is recorded at the Registry. Accordingly the Parcel hereby granted to the Grantee is conveyed subject to permanent restrictions hereby reserved to and held by the Grantor, forever restricting the Combined Premises to residential use, prohibiting the division or subdivision of any portion of the Combined Premises and prohibiting the conveyance or use of any portion of the Combined Premises apart from another portion of the Combined Premises, and automatically effectuating a reversion of the Parcel to the Grantor, if within twenty-four (24) months of the Date of the Deed, the Parcel has not been merged with the Grantee’s existing property in accordance with the Town of Nantucket By-Laws and statutes. These restrictions shall run with the title to the Combined Premises, and no part of the Combined Premises shall be hereafter used or conveyed in a manner inconsistent with these restrictions unless a prior written release is granted by the Town of Nantucket Board of Selectmen and filed with the Registry.”

These restrictions shall be enforceable for a term of 200 years from the date hereof, and all of the agreements, restrictions, rights and covenants contained herein shall be deemed to be “other restrictions held by any governmental body” pursuant to G.L. c. 184, Section 26 such that the restrictions contained herein shall be enforceable for the full term of 200 years and not be limited in duration by any contrary rule or operation of law. Nevertheless, if recording of a notice is ever
needed to extend the time period for enforceability of these restrictions, the grantee hereby appoints the grantor as its agent and attorney in fact to execute and record such notice and further agrees that the grantee shall execute and record such notice upon request. The representations, warranties and provisions of this Section 35 shall survive the delivery of this deed and any conveyance of the Premises, and BUYER shall accept a deed required to be delivered pursuant to this Agreement if such deed contains permanent restrictions, held by SELLER and running with the land, to enforce these covenants.

36. CONDITION OF PREMISES

BUYER acknowledges that prior to the date of this Agreement, BUYER entered the Premises for the purpose of surveying and inspecting the Premises, as necessary for BUYER’s financing and purchasing of the Premises and BUYER agrees that BUYER and BUYER’s agents fully and completely inspected the Premises, and that BUYER is wholly satisfied with the condition of the Premises. SELLER and SELLER’s agents have made no warranties or representations with respect to the Premises, express or implied, on which BUYER has relied except as otherwise set forth in this Agreement. In the event that BUYER and/or BUYER’s agents, contractors and employees access the Premises to make any further inspections, assessments, surveys, appraisals or other non-invasive examination of the surface of the Premises, then such access shall be solely at the BUYER’s risk, and BUYER shall indemnify and save SELLER harmless from any and all claims, demands, suits or causes of action of any nature whatsoever arising from BUYER’s and its agents’, contractors’ and employees’ presence at and/or actions upon or about the Premises, including, without limitation, any claim for personal injury or property damage made by any such person afforded access to the Premises pursuant hereto. BUYER will, and will cause its agents, employees, and contractors, to observe any posted rules and regulations on the Premises.

37. REPRESENTATION BY COUNSEL

BUYER and SELLER each acknowledge and agree that they have by counsel of their own choosing or have had an opportunity to be so represented by counsel, and both BUYER and SELLER have read and understand the terms of this Agreement.

38. ASSIGNMENT AND RECORDING OF AGREEMENT

BUYER shall not file this Agreement with any Registry of Deeds or recording office. BUYER shall not assign this Agreement to any party without SELLER’s prior written consent, which consent SELLER may withhold for any or no reason. In the event BUYER so files or assigns this Agreement without SELLER’s prior written consent, then SELLER may elect, upon written notice to BUYER, to terminate this Agreement.

39. SEVERABILITY

If this Agreement shall contain any term or provision which shall be invalid, then the remainder of the Agreement, as the case may be, shall not be affected thereby and shall remain valid and in full force and effect to the fullest extent permitted by law, provided such term or provision does not materially affect the obligations of either of the parties nor the essence of the Agreement.
SELLER:  TOWN OF NANTUCKET  
By its Board of Selectmen:

______________________
Robert L. Friedman, Trustee

______________________
Maguid Megalli, Trustee

BUYER:  Rye Realty Trust

508597v24NANT19712/0111
QUITCLAIM DEED

Parcel K, Tristram Avenue and Alliance Lane, Nantucket, Massachusetts

The TOWN OF NANTUCKET, a Massachusetts municipal corporation having a principal place of business at 16 Broad Street, Nantucket, Nantucket County, Massachusetts acting by and through its Board of Selectmen (the “Grantor”), in consideration of Five Thousand and 00/100 Dollars ($5,000.00), the receipt of which is hereby acknowledged, pursuant to the authority of Article 118 voted upon at the 2008 Annual Town Meeting, a certified copy of which is attached hereto, grants to Robert L. Friedman and Maguid Megalli, Trustees of Rye Realty Trust under a Declaration of Trust dated September 17, 1984 recorded with Nantucket County Registry of Deeds in Book 284, Page 25, of Rye, New York (the “Grantee”), with QUITCLAIM COVENANTS, a certain plot of land shown as Parcel K, Tristram Avenue and Alliance Lane, on a plan of land entitled “Roadway Acquisition Plan in Nantucket, Mass. Of Tristram Avenue, Alliance Lane, Proprietors Road, Assessors Map 31 & 32,” prepared by Bracken Engineering, Inc. dated June 9, 2008 recorded with said Deeds as Plan No. 2009-2. The premises hereby conveyed are a portion of Tristram Avenue and Alliance Lane in Nantucket, Massachusetts and contains approximately 13,600 square feet of vacant land (the “Parcel”).

This Parcel is conveyed subject to the following:

(a) An eight foot (8’) wide pedestrian access easement containing 1,444 square feet more or less for public access, as shown on a plan entitled “Pedestrian Access Easement Plan in Nantucket, Mass. Off of Eel Point Road,” prepared by Bracken Engineering, Inc., dated November 17, 2014, (the “Easement Plan”) attached hereto as Exhibit A and incorporated herein. The Grantee, at its sole cost and expense, may re-locate the pedestrian easement over another location on the Parcel provided the Grantor gives its prior written consent to such relocation; and

(b) Rights of owner of Parcel 46 shown on Assessor’s Map 32 and identified as 57 Eel Point Road to pass and re-pass by vehicular or pedestrian access over Parcel K on the existing gravel driveway to Eel Point Road as shown on the Easement Plan.

The Grantor’s conveyance of this Parcel is based in part on the Grantee’s warranty and representation to the Grantor that such Parcel shall be used for residential purposes only and shall, for all intents and purposes, be combined with and considered as one parcel with the abutting lots at 69 Eel Point Road and shown on Town Assessor’s Map 32 as Parcel 45 previously acquired by Grantee pursuant to Deed recorded with said Deeds in Book 285, Page 283 (collectively with the Parcel, the “Combined Premises”), and that no part of such Parcel or the Combined Premises shall hereafter be used for non-residential purposes nor divided, subdivided or conveyed as a separate parcel or parcels, unless prior written permission is granted by the Town of Nantucket Board of Selectmen and such permission is recorded at the Registry.
Accordingly, the Parcel hereby granted to the Grantee is conveyed subject to permanent restrictions hereby reserved to and held by the Grantor, forever restricting the Parcel and Combined Premises to residential use, prohibiting the division or subdivision of any portion of the Combined Premises and prohibiting the conveyance or use of any portion of the Combined Premises apart from another portion of the Combined Premises, and automatically effectuating a reversion of the Parcel to the Grantor, if within twenty-four (24) months of the date of this Deed, the Parcel has not been merged with the Grantee’s existing property in accordance with the Town of Nantucket By-Laws and statutes. These restrictions shall run with the title to the Combined Premises, and no part of the Combined Premises shall be hereafter used, conveyed, divided or subdivided in a manner inconsistent with these restrictions unless prior written release is granted by the Town of Nantucket Board of Selectmen and filed with the Registry.

By accepting and recording this Quitclaim Deed, the Grantee expressly agrees to the Grantor’s reservation of, and otherwise grants to the Grantor, such restrictions on the use of the Combined Premises. These restrictions shall be enforceable for a term of 200 years from the date hereof, and all of the agreements, restrictions, rights and covenants contained herein shall be deemed to be “other restrictions held by any governmental body,” pursuant to G.L. c. 184, §26, such that the restrictions contained herein shall be enforceable for the term of 200 years and not be limited in duration by any contrary rule or operation of law. Nevertheless, if recording of a notice is ever needed to extend the time period for enforceability of these restrictions, the Grantee hereby appoints the Grantor as its agent and attorney in fact to execute and record such notice and further agrees that the Grantee shall execute and record such notice upon request.

The undersigned certifies that there has been full compliance with the provisions of G. L. c. 44 §63A.

No deed stamp taxes are due on this conveyance pursuant to G.L. c. 64D, §1.

For Grantor’s title, see Order of Taking dated June 27, 2012 recorded with said Deeds in Book 1335, Page 93.

[Remainder of Page Intentionally Blank. Signatures Follow on Next Page.]
EXECUTED under seal this ______ day of ________________, 2014.

TOWN OF NANTUCKET
BY ITS BOARD OF SELECTMEN

______________________________________
Rick Atherton

______________________________________
Robert DeCosta

______________________________________
Bruce D. Miller

______________________________________
Matthew G. Fee

______________________________________
Tobias B. Glidden

COMMONWEALTH OF MASSACHUSETTS

Nantucket, ss

On this ______ day of ________________, 2014, before me, the undersigned Notary Public, personally appeared Rick Atherton, Robert DeCosta, Bruce D. Miller, Matthew G. Fee and Tobias B. Glidden as Members of the Board of Selectmen of the Town of Nantucket, proved to me through satisfactory evidence of identification, which was personal knowledge of the undersigned, to be the persons whose names are signed on the preceding or attached document, and acknowledged to me that they signed it voluntarily for its stated purpose as the free and deed of the Board of Selectmen of the Town of Nantucket.

______________________________________
Notary Public
My Commission Expires:
NOTES:

1. LOCUS: EEL POINT ROAD
   ALLIANCE LANE

2. OWNER: TOWN OF NANTUCKET

3. PLAN REF: PLAN No:2009-2

5' WIDE PEDESTRIAN ACCESS EASEMENT
(within the limits of Parcel "K")
2,021± s.f.

PEDESTRIAN ACCESS EASEMENT PLAN
IN NANTUCKET, MASS.
OFF OF EEL POINT ROAD
PREPARED BY BRACKEN ENGINEERING, INC.
19 OLD SOUTH ROAD
NANTUCKET, MA 02554
tel: (508) 325-0044
NOVEMBER 14, 2014

PLAN SCALE

1 inch = 60 feet
## Settlement Statement

Town of Nantucket (“Seller”)  
Robert L. Friedman and Maguid Megalli, Trustees of Rye Realty Trust (“Buyer”)  
Parcel K, Tristram Avenue and Alliance Lane, Nantucket, MA (Property)  
December 18, 2014 (Closing Date)

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td><strong>Purchase Price:</strong></td>
<td>$5,000.00</td>
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<tr>
<td><strong>Less:</strong></td>
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<tr>
<td>Deposit</td>
<td>$250.00</td>
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<td><strong>Plus:</strong></td>
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<tr>
<td>Payment in Lieu of Tax Adjustment 12/18/14-6/30/15</td>
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<td>Reimbursement of Town’s Legal Fees</td>
<td>$1,050.00</td>
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<td><strong>Net Amount Due Seller:</strong></td>
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<td></td>
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<tr>
<td>Town of Nantucket</td>
<td>$5,809.75</td>
</tr>
</tbody>
</table>

BUYER: RYE REALTY TRUST  
SELLER: TOWN OF NANTUCKET  
BOARD OF SELECTMEN

By: ____________________________  
Robert L. Friedman, Trustee

By: ____________________________  
Maguid Megalli, Trustee
GRANT OF EASEMENT

KNOW ALL MEN BY THESE PRESENTS, Thirty-Nine Hulbert, LLC, a Massachusetts limited liability company, having a mailing address of 39 Hulbert Street, Nantucket, Massachusetts 02554 (the “Grantor”), in consideration of One Dollar ($1.00) paid and in further consideration of a grant of Lot 1, Willard Street in said Nantucket to be conveyed to the Grantor by the afore-referenced Grantee by Deed to be recorded simultaneously herewith, do hereby GRANT to the Town of Nantucket (the “Town”), a body politic of the Commonwealth of Massachusetts, having offices at 16 Broad Street, Nantucket, Massachusetts 02554, by and through its Board of Selectmen, the “Grantee,” with QUITCLAIM COVENANTS, the following rights, title and interests:

1. A perpetual easement coextensive with and limited to the Easement Area of Grantor’s Lands. The terms “Easement Area” and “Grantor’s Land,” as well as other terms used in this Grant of Easement, are defined below in Paragraph 2. The scope of the affirmative perpetual easement herein granted is more fully defined, limited, and subject to the conditions and covenants set forth in the following paragraphs.

2. Definitions for the purposes of this Grant of Easement:

   “Grantor’s Land” shall mean a certain parcel of land situated in the Town and County of Nantucket, Massachusetts, shown as Lot 1, Willard Street shown on a plan entitled “Plan of Land, Acquisition and Disposition Plan, Willard Street in Nantucket, Massachusetts,” dated April 7, 2014, prepared by Nantucket Surveyors, LLC, recorded with Nantucket County Registry of Deeds in Plan No. 2014-36 and described in Deed to Grantor recorded herewith.

   “Easement Area” shall mean that part or portion of Grantor’s Land from the northerly side of the timber bulkhead to the record water line shown as “Beach Easement D” containing 154 square feet, more or less, on the plan of land entitled “Pedestrian, Beach & Small Boat Storage Easement Plot Plan in Nantucket, Massachusetts,” dated November 3, 2014, prepared by Nantucket Surveyors, LLC attached hereto as Exhibit A and incorporated herein by reference, as the case may be, and as the mean low water line, and the timber bulkhead may exist from time to time. To the extent that erosion, accretion, drifting sand, avulsion or other natural phenomena alter the mean low water line, the Easement Area shall be deemed correspondingly altered for purposes of this Grant of Easement.

   “Coastal Conservation Land” shall mean that ocean-front land, contiguous to Grantor’s Land, now or hereafter owned by the Town or by the Nantucket Islands Land Bank, a government body established for the purpose of land conservation (see, Chapter 669 of the Massachusetts Acts of 1983, as amended), and held for the purpose of preserving the unique natural littoral environment of Nantucket for enjoyment by the general public, and for protecting the scenic and ecological character of the Nantucket shore.

   “Commercial Activities” shall mean any activity or event where money is paid to an individual or business entity for services rendered within the Easement Area. By way of illustration only and without limitation, the erection or use of any permanent or temporary structure, kiosk, dock, mooring, stand, cart, sign for advertisement, or other real or personal
property, fixtures, or equipment primarily for the purpose of, or incidental or accessory thereto, manufacturing, selling, leasing or otherwise providing from that specific structure or arising from such use any property, good, product or service.

“conservation” and “recreation,” and all derivations therefrom, shall have the general meanings and uses given to those terms by Internal Revenue Code, Section 170(h), and the regulations promulgated thereunder.

“mean high water line” shall mean the line where the arithmetic mean of the high water heights observed over a specific 19-year metonic cycle (the National Tidal Datum Epoch) meets the shore and shall be determined using hydrographic survey data of the National Ocean Survey of the U.S. Department of Commerce.

“mean low water line” shall mean the line where the arithmetic mean of the low water heights observed over a specific 19-year metonic cycle (the National Tidal Datum Epoch) meets the shore and shall be determined using hydrographic survey data of the National Ocean Survey of the U.S. Department of Commerce.

“intertidal areas” shall mean the area upland of the mean low water line and seaward of the mean high water line, subject to tidal action.

“Maintenance Obligation” shall mean the ongoing and continuous obligation and duty to adequately patrol, maintain and police (that is, supervise, clean, and maintain order, but not to be required to provide regular patrolling by law enforcement officers) environmental resources in accordance with the Nantucket Beach Management Plan as the same may be amended from time to time and State and local law, and periodically to inspect the Easement Area.

3. The Grantee and the general public shall have the right to enter upon and use the Easement Area exclusively for conservation and recreational purposes for which beaches are used on Nantucket but not Commercial Activities. These purposes and uses include, by way of illustration and without limitation, educational uses, swimming, fishing, surfboarding, snorkeling, sunbathing, strolling, walking, hiking, wildlife observation, picnicking, scenic viewing, normal and usual beach recreational activities and games, and other similar or appropriate and reasonable recreational outdoor activities and uses as the Grantee, shall determine from time to time, provided the said similar uses shall have been approved in writing by the Board of Selectmen of the Town of Nantucket and notice of such approval is duly published in a newspaper of general circulation in the Town of Nantucket. The Grantee shall regulate the hours and the scope and nature of the permitted uses and activities in accordance with the Grantee’s standard beach-management practices in effect for the beaches of Nantucket as found in the Town of Nantucket Beach Management Plan, as adopted by the Nantucket Board of Selectman June 1, 2005 and “Regulations for the Use of Town-Owned Beaches”, said regulations effective August 1, 2003 as amended August 4, 2004 as may be amended from time to time, and further the Grantee may grant special permits, from time to time, with the prior written approval from the Grantor, for such other uses and activities and for extended hours, from time to time, as may be provided for by such duly adopted rules, regulations and/or bylaws. In adopting such rules, regulations and/or bylaws, and in issuing special permits pursuant thereto, the Grantee (together with any applicable departments or other divisions, boards, bodies,
agencies, officials or agents of the Town) shall use reasonable efforts to minimize reasonably foreseeable adverse effects of such rules, regulations and/or bylaws and permits proposed to be issued upon the reasonable peaceful enjoyment of the Grantor’s Land lying outside the Easement Area and upon the Easement Area and shall in no event authorize and the Town shall use reasonable efforts to prohibit any Commercial Activities within the Easement Area, nor in any way compromise the liability protection now afforded to Grantor by M.G.L. c. 21, §17C or any revised or replacement statute that affords liability protection which is substantially similar to that now afforded by M.G.L. c. 21, §17C. Notwithstanding the foregoing, the Town shall have the right to enter upon, travel over or otherwise use those portions of the Easement Area necessary to perform its Maintenance Obligation.

4. Notwithstanding the uses and activities set forth in paragraph 3 above, the Grantee shall not allow access and use of recreational vehicles in the Easement Area except as provided for herein below. Vehicular access and use shall be prohibited subject to such rules, regulations and bylaws previously adopted by the Grantee and now existing or hereafter adopted by the Grantee.

5. Notwithstanding the provisions of paragraphs 3 and 4 above, all movable or fixed structures and signage indicating the limits and/or access to the Easement Area shall be prohibited throughout the Easement Area except constructed steps to ascend and descend the coastal bank, and Grantor and/or Grantee may erect or maintain wire or snow fencing, signage or the like along the seaward edge of the coastal bank as may reasonably be warranted to protect the coastal bank or any species listed by any applicable state or federal law or regulation as endangered or threatened so as to advance the conservation purposes for which this Easement is being granted, without unreasonably frustrating the recreational purposes of this Easement. If any structure(s) mandated under applicable state or federal law or regulation frustrate the purposes for which this Grant of Easement is being granted, such structures may be maintained only for as long as is legally required and the party that caused such structure(s) to be placed on the Easement Area shall be responsible for and shall remove such structures(s) within a reasonable period after such time.

6. In addition to any other duties and obligations, the Town shall have the ongoing and continuous obligation and duty to fulfill its Maintenance Obligation and to reasonably ensure that persons granted access pursuant to this easement fully comply with Massachusetts, local and federal laws protecting coastal areas and the use of this beach. Any member(s) of the public who violate(s) the duly adopted rules, regulations and/or bylaws or who refuse to cease and desist from any proscribed conduct, acts or omissions to do or perform anything required to conform to the same may be cited in accordance with said rules, regulations and/or bylaws. The Town may remove from the Easement Area any individual who violates any said rule, regulation and/or bylaw. Further, when issuing any permits pursuant to such rules, regulations and/or bylaws, the Town shall impose such reasonable conditions and restrictions that may be reasonably necessary to assure the Grantor the reasonable peaceful enjoyment of Grantor’s Land lying outside the Easement Area.

7. This Grant of Easement shall be binding upon and inure to the benefit of the Grantor(s) and his/her/their heirs, executors, administrators, legal representatives, successors and assigns and this Grant of Easement shall be binding upon and inure to the benefit of the Grantee, and the
Town and its successors and assigns. The Town’s successors and assigns shall be entities eligible to hold qualified conservation restrictions under applicable federal tax law.

8. This Grant of Easement shall be subject to and interpreted pursuant to the laws of the Commonwealth of Massachusetts, and, to the extent applicable to shorefront property, also subject to the laws of the United States of America.

9. Rights retained by the Grantor(s) in and to the Easement Area shall be inferior and incidental to the conservation and recreational use of the Easement Area provided for here, and shall be valid to the extent consistent with this Grant of Easement, and only if exercised so as not to impair the conservation and recreational rights and interests conveyed to the Town hereunder. Said granted and retained rights shall exclude the right to physically alter the Easement Area, by any manual or mechanical means, in any way that would diminish the conservation and recreational purposes of this Grant of Easement. The Grantor(s) and the Town shall have the right to enforce the terms, conditions and provisions hereof by an action in equity brought in the Nantucket Superior Court of the Commonwealth of Massachusetts, and in no other courts or jurisdictions, but although the Nantucket Superior Court shall be the initial forum, nothing herein shall affect or diminish the Town’s or Grantor’s rights to appeal any decision made by such Court. The Grantor hereby agrees that no such action shall be commenced unless and until the Grantor shall have given thirty (30) days written notice to the Town, itemizing and detailing with particularity the alleged acts or omissions of the Town deemed to be in material violation of the terms, conditions and/or provisions hereof. In the event that the Town shall have substantially cured such material violations and has taken reasonable measures to assure that uncurable violations shall be avoided in the future, no such actions shall be commenced. However, in no event shall the Town be liable for any monetary damages based upon a violation (material or otherwise) hereof.

10. The Grantee has represented to the undersigned Grantor(s) that the Town has taken or shall promptly take all lawful measures for the Town to accept this Grant of Easement on behalf of itself and the Grantee and to undertake the Maintenance Obligation provided for herein. Grantor represents that he is the rightful lawful owner of the Grantor’s Land and the Easement Area and that he possesses the legal authority to grant the rights in real property conveyed to Grantee under this Grant of Easement.

11. No term, covenant or provision of this Grant of Easement, nor the granting or acceptance hereof, shall be construed to be a waiver or release by Grantee or the Town of any right, title or interest it may hold relative to the Easement Area, any permanently submerged land, any coastal dune, any coastal bank or any other land affected by this Grant of Easement.

12. The Grantor shall be absolved from liability claims arising from accidents or injuries occurring to users of the Easement Area in accordance with the provisions of M.G.L. c 21, §17C or any revised or replacement statute that affords liability protection which is substantially similar to that now afforded by M.G.L. c. 21, §17C. Grantor may, in Grantor’s discretion, close the Easement Area to public use in the event the landowner liability protection afforded in M.G.L. c. 21, §17C is repealed or altered in a manner which materially increases, in Grantor’s reasonable opinion, Grantor’s potential liability to public users of the Easement Area, and
provided (a) no other statute or law affords Grantor, liability protection which is substantially similar to that now afforded by M.G.L. c. 21, §17C; or (b) Grantee elects not to provide reasonable insurance coverage or otherwise agrees to hold Grantor harmless against potential liability to public users of the Easement Area, except for liabilities directly caused by or arising from Grantor’s gross negligence or willful misconduct. Upon the effective date of another statute or law affording to Grantor, in Grantor’s counsel’s reasonable opinion, with liability protection substantially similar to that now afforded by M.G.L. c. 21, §17C, or Grantee agreeing to provide reasonable insurance coverage or to otherwise hold Grantor harmless against potential liability to public users of the Easement Area (except for liabilities directly caused by or arising from Grantor’s gross negligence or willful misconduct), then Grantor shall promptly open for public use all portions of the Easement Area then closed to the public. The Town shall use reasonable efforts not to compromise in any way the liability protection now afforded to Grantor by M.G.L. c. 21, §17C or any revised or replacement statute that affords liability protection which is substantially similar to that now afforded by M.G.L. c. 21, §17C.

13. Grantor and the Town shall not use the Easement Area in any manner detrimental to the Easement Area or inconsistent with the purpose of this Grant of Easement.

14. Any notices or deliveries required or permitted to be given to the Town pursuant to this instrument shall be in writing and delivered to the Board of Selectmen at Town and County Building, 16 Broad Street, Nantucket, Massachusetts 02554. Any notices or deliveries required or permitted to be given to Grantor pursuant to this instrument shall be in writing and delivered to Grantor at his mailing address. All such notices shall be delivered by registered or certified mail, postage prepaid and receipt required, or overnight express courier with receipt required. Either the Town or the Grantor may change its address to which any notice is to be delivered by providing the other with reasonable notice of such new address in one of the manners specified above.

[Signatures Follow On Next Page]
In witness whereof, the undersigned Grantor, intending to be legally bound hereby, has affixed his hand and seal this _______ day of __________________, 2015.

GRANTOR: THIRTY-NINE HULBERT, LLC

____________________________________

COMMONWEALTH OF MASSACHUSETTS

, ss

On this _____ day of ____________________________, 2015 before me, the undersigned notary public, personally appeared __________ as aforesaid, proved to me through satisfactory evidence of identification, which was __________________________ to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose.

Notary Public

My commission expires:
ACCEPTANCE BY THE TOWN OF NANTUCKET

The undersigned, constituting a majority of the Town of Nantucket Board of Selectmen, hereby acknowledge that at a meeting of the Board of Selectmen held on ______________, 2015, the forgoing Grant of Easement was accepted pursuant to the authority of Article 6 of the Special Town Meeting held November 4, 2013 and Section 3.3 of Chapter 289 of the 1996 Acts of the General Court, pursuant to which we have directed publication of notice regarding this acceptance.

TOWN OF NANTUCKET
By its Board of Selectmen

____________________________________
Rick Atherton

____________________________________
Robert DeCosta

____________________________________
Bruce D. Miller

____________________________________
Matthew G. Fee

____________________________________
Tobias B. Glidden

COMMONWEALTH OF MASSACHUSETTS

Nantucket, ss

On this _______ day of ______________________2015, before me, the undersigned notary public personally appeared, Rick Atherton, Robert DeCosta, Bruce D. Miller, Matthew G. Fee and Tobias B. Glidden as members of the Board of Selectmen of the Town of Nantucket, and proved to me through satisfactory evidence of identification, which was personal knowledge of the undersigned, to be the persons whose names are signed on the preceding document, and acknowledged to me that they signed it voluntarily for its stated purpose as the free act and deed of the Board of Selectmen of the Town of Nantucket.

____________________________________
Notary Public
My Commission Expires:
QUITCLAIM DEED

Lot 1, Willard Street, Nantucket, Massachusetts

The TOWN OF NANTUCKET, a Massachusetts municipal corporation having a principal place of business at 16 Broad Street, Nantucket, Nantucket County, Massachusetts acting by and through its Board of Selectmen (the “Grantor”), in consideration of Grant of Easement to the Grantor, the receipt of which is hereby acknowledged, pursuant to the authority of Article 6 voted upon at the 2013 Special Town Meeting, a certified copy of which is attached hereto, grants to THIRTY-NINE HULBERT, LLC, a Massachusetts limited liability company having a mailing address of 39 Hulbert Avenue, Nantucket, Massachusetts 02554 (the “Grantee”), with QUITCLAIM COVENANTS, a certain plot of land shown as Lot 1, Willard Street, in Nantucket, Massachusetts," dated April 7, 2014, prepared by Nantucket Surveyors, LLC, recorded with said Deeds as Plan No. 2014-36. The premises hereby conveyed are a portion of Willard Street in Nantucket, Massachusetts and contain approximately 2,515 square feet of land (the “Parcel”).

This Parcel is conveyed subject to the following easements reserved by the Grantor:

(a) A perpetual pedestrian access easement, shown as “Pedestrian Easement A” containing 349 square feet, more or less, for public access, as shown on a plan entitled “Pedestrian, Beach & Small Boat Storage Easement Plan in Nantucket, Mass.,” prepared by Nantucket Surveyors, LLC, dated November 13, 2014, (the “Easement Plan”) attached hereto as Exhibit A and incorporated herein; and

(b) A perpetual small boat storage easement, shown as “Small Boat Storage Easement E,” containing 224 square feet, more or less, as shown on the Easement Plan, for use for storage of small boats, including but not limited to, dinghies and kayaks, from April 1 to October 31 of each calendar year.

The Grantor’s conveyance of this Parcel is based in part on the Grantee’s warranty and representation to the Grantor that such Parcel shall be used for residential purposes only and shall, for all intents and purposes, be combined with and considered as one parcel with the abutting lot at 39 Hulbert Avenue and shown on Town Assessor’s Map 29 as Parcel 19 previously acquired by Grantee pursuant to Deed filed with Nantucket Registry District of the Land Court as noted on Certificate of Title No. 24425 (collectively with the Parcel, the “Combined Premises”), and that no part of such Parcel or the Combined Premises shall hereafter be used for non-residential purposes nor divided, subdivided or conveyed as a separate parcel or parcels, unless prior written permission is granted by the Town of Nantucket Board of Selectmen and such permission is recorded at the Registry. Accordingly, the Parcel hereby granted to the Grantee is conveyed subject to permanent restrictions hereby reserved to and held by the Grantor, forever restricting the Parcel and Combined Premises to residential use, prohibiting the
division or subdivision of any portion of the Combined Premises and prohibiting the conveyance or use of any portion of the Combined Premises apart from another portion of the Combined Premises, and automatically effectuating a reversion of the Parcel to the Grantor, if within twenty-four (24) months of the date of this Deed, the Parcel has not been merged with the Grantee’s existing property in accordance with the Town of Nantucket By-Laws and statutes. These restrictions shall run with the title to the Combined Premises, and no part of the Combined Premises shall be hereafter used, conveyed, divided or subdivided in a manner inconsistent with these restrictions unless prior written release is granted by the Town of Nantucket Board of Selectmen and filed with the Registry.

By accepting and recording this Quitclaim Deed, the Grantee expressly agrees to the Grantor’s reservation of, and otherwise grants to the Grantor, such restrictions on the use of the Combined Premises. These restrictions shall be enforceable for a term of 200 years from the date hereof, and all of the agreements, restrictions, rights and covenants contained herein shall be deemed to be “other restrictions held by any governmental body,” pursuant to G.L. c. 184, §26, such that the restrictions contained herein shall be enforceable for the term of 200 years and not be limited in duration by any contrary rule or operation of law. Nevertheless, if recording of a notice is ever needed to extend the time period for enforceability of these restrictions, the Grantee hereby appoints the Grantor as its agent and attorney in fact to execute and record such notice and further agrees that the Grantee shall execute and record such notice upon request.

The undersigned certifies that there has been full compliance with the provisions of G. L. c. 44 §63A.

No deed stamp taxes are due on this conveyance pursuant to G.L. c. 64D, §1.

For Grantor’s title, see Confirmatory Order of Taking dated January 28, 2015 recorded with Nantucket County Registry of Deeds in Book ____, Page ___.

[Remainder of Page Intentionally Blank. Signatures Follow on Next Page.]
EXECUTED under seal this ______ day of ________________, 2015.

TOWN OF NANTUCKET
BY ITS BOARD OF SELECTMEN

_____________________________________
Rick Atherton

_____________________________________
Robert DeCosta

_____________________________________
Bruce D. Miller

_____________________________________
Matthew G. Fee

_____________________________________
Tobias B. Glidden

COMMONWEALTH OF MASSACHUSETTS

Nantucket, ss

On this ______ day of ________________, 2015, before me, the undersigned Notary Public, personally appeared Rick Atherton, Robert DeCosta, Bruce D. Miller, Matthew G. Fee and Tobias B. Glidden as Members of the Board of Selectmen of the Town of Nantucket, proved to me through satisfactory evidence of identification, which was personal knowledge of the undersigned, to be the persons whose names are signed on the preceding or attached document, and acknowledged to me that they signed it voluntarily for its stated purpose as the free and deed of the Board of Selectmen of the Town of Nantucket.

_____________________________________
Notary Public
My Commission Expire:
SETTLEMENT STATEMENT

Town of Nantucket ("Seller")
Thirty-Nine Hulbert, LLC ("Buyer")
Lot 1, Willard Street, Nantucket, MA (Property)
January 29, 2015 (Closing Date)

Purchase Price: $ 0.00

Less:
Deposit $ 0.00

Plus:
Payment in Lieu of Tax Adjustment 1/29/15-6/30/15 and 7/1/15-6/30/16 $ 13.96
Reimbursement of Town’s Legal Fees $ 1,100.00

Net Amount Due Seller: $ 1,113.96

Checks:

Town of Nantucket $ 1,113.96

BUYER: THIRTY-NINE HULBERT, LLC
SELLER: TOWN OF NANTUCKET
BOARD OF SELECTMEN

By: ____________________________
QUITCLAIM DEED

Parcel C, Naushon Way and Nobadeer Avenue, Nantucket, Massachusetts

The TOWN OF NANTUCKET, a Massachusetts municipal corporation having a principal place of business at 16 Broad Street, Nantucket, Nantucket County, Massachusetts acting by and through its Board of Selectmen (the “Grantor”), in consideration of Five thousand and 00/100 Dollars ($5,000.00), the receipt of which is hereby acknowledged, pursuant to the authority of Article 77 voted upon at the 2010 Annual Town Meeting and Article 13 voted upon at the 2012 Special Town Meeting, certified copies of which are attached hereto, grants to James P. Kelley and Marlys E. Kelley, Co-Trustees of Seamoor Nominee Trust under a Declaration of Trust dated November 5, 2007 filed with the Nantucket Registry District of the Land Court as Document No. 122289, as amended of record, of 18 Nonantum Avenue, P.O. Box 683, Nantucket, Massachusetts (the “Grantee”), with QUITCLAIM COVENANTS, a certain plot of land in Nantucket, Massachusetts, shown as Parcel C, Naushon Way and Nobadeer Avenue, on a plan of land entitled “Plan of Land Acquisition and Disposition Plan, Poplar Street, Nobadeer Avenue & Naushon Way in Nantucket, Massachusetts, Prepared for Town of Nantucket,” dated May 5, 2014, prepared by Nantucket Surveyors, LLC recorded with Nantucket County Registry of Deeds as Plan No. 2014-55. The premises hereby conveyed are a portion of Naushon Way and Nobadeer Avenue in Nantucket, Massachusetts and contains approximately 9,400 square feet of vacant land (the “Parcel”).

The Grantor’s conveyance of this Parcel is based in part on the Grantee’s warranty and representation to the Grantor that such Parcel shall be used for residential purposes only and shall, for all intents and purposes, be combined with and considered as one parcel with the abutting lots at 18 Nonantum Avenue and shown on Town Assessor’s Map 97 as Parcel 18 previously acquired by Grantee pursuant to Deed filed with said Registry District of the Land Court noted on Certificate of Title No. 22800 (collectively with the Parcel, the “Combined Premises”), and that no part of such Parcel or the Combined Premises shall hereafter be used for non-residential purposes nor divided, subdivided or conveyed as a separate parcel or parcels, unless prior written permission is granted by the Town of Nantucket Board of Selectmen and such permission is recorded at the Registry. Accordingly, the Parcel hereby granted to the Grantee is conveyed subject to permanent restrictions hereby reserved to and held by the Grantor, forever restricting the Parcel and Combined Premises to residential use, prohibiting the division or subdivision of any portion of the Combined Premises and prohibiting the conveyance or use of any portion of the Combined Premises apart from another portion of the Combined Premises, and automatically effectuating a reversion of the Parcel to the Grantor, if within twenty-four (24) months of the date of this Deed, the Parcel has not been merged with the Grantee’s existing property in accordance with the Town of Nantucket By-Laws and statutes. These restrictions shall run with the title to the Combined Premises, and no part of the Combined Premises shall be hereafter used, conveyed, divided or subdivided in a manner inconsistent with
these restrictions unless prior written release is granted by the Town of Nantucket Board of Selectmen and filed with the Registry.

By accepting and recording this Quitclaim Deed, the Grantee expressly agrees to the Grantor’s reservation of, and otherwise grants to the Grantor, such restrictions on the use of the Combined Premises. These restrictions shall be enforceable for a term of 200 years from the date hereof, and all of the agreements, restrictions, rights and covenants contained herein shall be deemed to be “other restrictions held by any governmental body,” pursuant to G.L. c. 184, §26, such that the restrictions contained herein shall be enforceable for the term of 200 years and not be limited in duration by any contrary rule or operation of law. Nevertheless, if recording of a notice is ever needed to extend the time period for enforceability of these restrictions, the Grantee hereby appoints the Grantor as its agent and attorney in fact to execute and record such notice and further agrees that the Grantee shall execute and record such notice upon request.

The undersigned certifies that there has been full compliance with the provisions of G. L. c. 44 §63A.

No deed stamp taxes are due on this conveyance pursuant to G.L. c. 64D, §1.

For Grantor’s title, see Order of Taking dated June 25, 2014 recorded with said Deeds in Book 1444, Page 42 and filed with said Registry District of the Land Court as Document No. 145205.

[Remainder of Page Intentionally Blank. Signatures Follow on Next Page.]
EXECUTED under seal this _____ day of ______________, 2015.

TOWN OF NANTUCKET
BY ITS BOARD OF SELECTMEN

________________________________
Rick Atherton

________________________________
Robert DeCosta

________________________________
Bruce D. Miller

________________________________
Matthew G. Fee

________________________________
Tobias B. Glidden

COMMONWEALTH OF MASSACHUSETTS

Nantucket, ss

On this _____ day of ______________, 2015, before me, the undersigned Notary Public, personally appeared Rick Atherton, Robert DeCosta, Bruce D. Miller, Matthew G. Fee and Tobias B. Glidden as Members of the Board of Selectmen of the Town of Nantucket, proved to me through satisfactory evidence of identification, which was personal knowledge of the undersigned, to be the persons whose names are signed on the preceding or attached document, and acknowledged to me that they signed it voluntarily for its stated purpose as the free and deed of the Board of Selectmen of the Town of Nantucket.

________________________________
Notary Public
My Commission Expires:
SETTLEMENT STATEMENT

Town of Nantucket (“Seller”)
James P. Kelley and Marlys E. Kelley, Co-Trustees of Seamoor Nominee Trust (“Buyer”)
Parcel C, Naushon Way and Nobadeer Avenue Nantucket, MA (Property)
January 29, 2015 (Closing Date)

Purchase Price: $ 5,000.00

Less:
Deposit $ 0.00

Plus:
Payment in Lieu of Tax Adjustment
1/29/15-6/30/15 and 7/1/15-6/30/16 $ 26.40
Reimbursement of Town’s Legal Fees $ 875.00

Net Amount Due Seller: $ 5,901.40

Checks:
Town of Nantucket $ 5,901.40

BUYER: SEAMOOR NOMINEE TRUST
SELLER: TOWN OF NANTUCKET BOARD OF SELECTMEN

By: ______________________
James P. Kelley, Trustee

By: ______________________
Marlys E. Kelley, Trustee

514586/NANT19712/0001
To the County Commissioners of the County of Nantucket:

Pursuant to G.L. c.82, §2, the undersigned respectfully represents that public convenience and necessity require the discontinuance of a county highway and as a public way of a portion of Baxter Road from the westerly sideline of Bayberry Lane across Baxter Road to the western terminus of Baxter Road the boundaries of said way as shown on a plan entitled “County of Nantucket Road Transfer to the Town of Nantucket, Baxter Road (aka) Atlantic Street, dated September 18, 2014, prepared by ACKME Survey LLC to be recorded with Nantucket County Registry of Deeds.

Wherefore, your Petitioner prays that your Commission will, after due notice and hearing, make such orders and decrees in the matter as shall be deemed necessary for public convenience and necessity.

Dated this _____ day of ________________, 2015

TOWN OF NANTUCKET
BOARD OF SELECTMEN

Rich Atherton

Robert DeCosta

Bruce D. Miller

Matthew G. Fee

Tobias B. Glidden
MEMORANDUM

To: Town of Nantucket
From: Jason Schrieber and Michael Alba, Nelson\Nygaard
Date: June 8, 2011
Subject: Summary of Parking Management for Downtown Nantucket

Parking Management Program

This memorandum summarizes the refined parking management plan resulting from a series of public workshops in February 2011. The original parking management program presented in February 2011 is attached in the Appendix C. A number of studies and meetings have preceded this memorandum, all of which identified the need to evaluate or implement alternative parking management systems for the downtown area:

- 2007 Regional Transportation Plan
- 2008 Downtown Circulation & Ferry Access Improvement Study
- 2008 Urban Land Institute Advisory Panel on the downtown
- 2009 Master Plan (accepted by Town Meeting)
- 2009 Transit Study by University of Connecticut Center for Transportation and Urban Planning
- 2009 Parking Utilization Study by Tetratech Rizzo
- In March of 2010, Nelson\Nygaard visited the Island and met with key stakeholders in the Town to collect background information.
- In June of 2010, Nelson\Nygaard analyzed the results from the 2009 supply and demand survey to identify specific areas of concern and documented a series of potential strategies that could be applied to the specific concerns within Nantucket. These options were presented during a series of public outreach events attended by roughly 60 people over a two day period in which the public was asked to weigh in on the strategies. These workshops identified a set of priorities and community preferred strategies for managing parking in downtown.
- A parking management program based upon the community preferred strategies was presented during four public workshops in February 2011. These workshops were attended by roughly 150 people. As a result of these workshops, the proposed management plan was revised as presented below.

Guiding Principles

Based upon the priorities chosen by the public during the June 2010 workshops, a number of fundamental principles were identified to guide the development of the management program.
Program Details

Enhanced Supply

Traditionally, a municipality faced with demand for parking that is apparently in excess of supply might initially attempt to increase capacity by building more parking. While the construction of new parking will certainly increase supply, without appropriate parking management measures, demand for prime front-door spaces will remain – leaving places like Main Street as over-utilized as they are today. Nonetheless, an increase in Nantucket’s supply was of interest to many within the community.

Allowing a valet service to operate and encouraging remote parking by providing a shuttle were seen as ideal ways to enhance the downtown supply at times when parking demand has surpassed the supply downtown.

Valet Service

The Town can license a valet service to allow the valet control over a few parking spaces downtown. The valet service would use these spaces to establish a few drop-off stations within downtown to receive customers’ vehicles upon arrival, park them in outlying areas, and return them when the customer is ready to depart. While not actually increasing the supply of parking in downtown, this would effectively increase the amount of parking available to downtown by turning a few lost downtown spaces into numerous cars parked outside of downtown.

For sample licensing agreements, please see Appendix A.

Remote Parking & Shuttle Service

Identifying parking lots outside of the downtown area as remote parking facilities does not increase the supply of spaces in downtown. Remote parking is part of the solution to managing Nantucket’s parking but without proper management of downtown, drivers will always head downtown first and only use remote parking if downtown is full. While offering a regularly operated shuttle to ferry drivers directly between the remote lots and downtown helps to transform remote facilities into an extension of the downtown supply, by itself, remote parking will always be the option of last resort. Making remote parking an attractive alternative to downtown requires a management program which creates a cost of parking downtown that for some people on some trips is balanced with the inconvenience of parking remotely and using a shuttle.

Demand Management

Demand management strategies focus on influencing behavior of those traveling to the destination with the intent of balancing the number of vehicles at levels the supply can handle. The goal is to maintain occupancy levels of 85-percent, considered the ideal level of utilization for on-street parking. This is most effectively achieved through the pricing of parking.

During the 2010 workshops, pricing was accepted as an effective strategy for influencing the demand for parking. Parking pricing would reflect the demand in the location; areas with higher demand would have a higher price and lower demand would have a lower price. To simplify
Communicating cost to the public, two pricing districts would be established: a high price district and a low price district.

**Demand Responsive Pricing**

*Demand responsive pricing* involves altering the cost of parking according to level of demand based upon market principles. In other words, drivers pay what they are willing to pay; in areas with higher demand, parking has a higher price; areas with lower demand, have a lower price. For some places, the market rate for parking is free. The intent of demand responsive pricing is to maintain a balance between the number of cars wanting to park and the amount of spaces that are available in that location. In Nantucket, this would be enacted through the two separate pricing districts and price escalation. District 1 is the high demand district and District 2 is the low demand district.

**District 1**

District 1 is intended for customer parking with the most convenient access to commercial destinations. As the area closest the majority of economic activity, it is the most valuable downtown parking and should be priced accordingly. Pricing here would be intended for customers who wish to quickly park and get about their business. The price would escalate significantly over time with two purposes in mind: encourage turnover and encourage employees to park in more appropriate locations. For short stops, the cost would be free or negligible but if the vehicle is parked for more than an hour, the driver would have to pay for that privilege.

**District 1 Price Escalation**

- 1-hour free,
- after 2 hours = $5,
- after 3 hours = $10,
- after 4 hours = $15,
- after 5 hours = $25,
- after 6 hours = $35

**District 2**

District 2 is intended for general parking with a longer walk to access commercial destinations. This parking would be intended largely for the downtown residents, employees, and customers wishing to save money and willing to walk further. Outside of the main areas of economic activity, this parking would be less convenient and in lower demand. As a result, this district would have a lower price than District 1.

**District 2 Price Escalation**

- 2-hours free,
- after 3 hours = $5,
- after 4 hours = $10,
- after 5 hours = $15,
- after 6 hours = $20
Contemporary Payment Systems

In vehicle meters would be offered to everyone as a way to pay for parking. These units would be connected to a payment account that would be charged for parking, similar to the EZ Pass transponders for highway tolls. Upon parking, the driver would use the meter to identify the zone in which they are parked and initiate payment. When they depart, they simply cease payment. The meter would be displayed hanging from the rear view mirror or on the inside of the window.

Figure 2  Sample In Vehicle Meters
Pay-by-plate payment kiosks allow drivers to pay for parking by entering their specific license plate number into the kiosk when paying, rather than by providing a receipt for display on the dashboard. These stations allow customers to continue shopping or choose to stay for dinner without requiring drivers to return to their vehicle as time extensions can be paid remotely (i.e., another station, by cell phone, etc.). These kiosks make paying for parking easy by providing a number of payment options, including cash and credit cards. As a result, the compliance with payment is significantly increased. The use of the license plate as the method for tracking payment also allows for improved monitoring.

**Figure 3  Fictional Parking Kiosk Experience**

**Revised Downtown Resident Permit**

The downtown resident permit program would be revised to incorporate the principles of demand management. Residents living within the downtown residential permit area would still be eligible to purchase a permit that would allow them to park their vehicle on the street in District 2 without having to pay. The existing program would be revised to adjust the permit price based on availability of on property parking and to escalate with each additional vehicle a household wishes to permit.
No Time Limit

Time limits artificially impose restrictions on the amount of time people can spend shopping or dining with no regard for the customer’s preference. If pricing is properly administered, time limits are obsolete and should be eliminated, instead allowing the customer to decide how long they wish to stay based upon their willingness to pay. This encourages increased economic activity by allowing customers to spontaneously extend their visit while still encouraging sufficient turnover. Eliminating time limits would also allow Nantucket to remove many of its abundant time limit signs thus enhancing the quality of the public realm.

<table>
<thead>
<tr>
<th>Tier 1 - Private Residents with No Private Parking</th>
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<tbody>
<tr>
<td>1st permit/household $25 Eligibility</td>
</tr>
<tr>
<td>2nd permit/household $50 Available to residents living within the residential parking permit area with no private parking and no potential to provide private parking</td>
</tr>
<tr>
<td>3rd permit/household $100</td>
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<tr>
<td>4th &amp; each additional $200</td>
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<table>
<thead>
<tr>
<th>Tier 2 - Private Residents with Private Parking</th>
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<tbody>
<tr>
<td>1st permit/household $50 Eligibility</td>
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<table>
<thead>
<tr>
<th>Downtown Resident Permit</th>
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</thead>
<tbody>
<tr>
<td>Guest House Visitor Permissions</td>
</tr>
<tr>
<td>Renewal Period</td>
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<tr>
<td>&gt; Annual Basis</td>
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<table>
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<tr>
<th>Tier 3 - Guest Houses with No Parking</th>
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</thead>
<tbody>
<tr>
<td>1st permit/business $100 Eligibility</td>
</tr>
<tr>
<td>2nd permit/business $200 Available to guest houses within the residential parking permit area with no private parking</td>
</tr>
<tr>
<td>3rd permit/business $400 private parking</td>
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<td>4th &amp; each additional $800</td>
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<table>
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<tr>
<th>Tier 4 - Guest Houses with Parking</th>
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<tbody>
<tr>
<td>1st permit/business $150 Eligibility</td>
</tr>
<tr>
<td>2nd permit/business $300 Available to guest houses within the residential parking permit area with private parking</td>
</tr>
<tr>
<td>3rd permit/business $600 private parking</td>
</tr>
<tr>
<td>4th &amp; each additional $1,200</td>
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</tbody>
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Figure 4 Downtown Resident Permit Fee Schedule
Improved Enforcement

Most parking management systems rely heavily on enforcement to ensure that the desired policy goals of the regulations are met. However, every regulation and parking strategy can be undercut by those who attempt to ‘game the system’, reducing the efficacy of parking policy. Improved enforcement can be very helpful in reaching the parking goals set by the regulatory framework. This consists of technologies that simplify or streamline the enforcement procedures in some way, either tools that enhance the enforcement officer’s ability or automating monitoring procedures.

Automated License Plate Recognition

Participants identified an interest in improving the enforcement of parking regulations through the use of license plate recognition (LPR) units. The use of these units would result in improved compliance and increased availability. Under a payment system using in vehicle meters and pay-by-plate kiosks, this improved efficiency is amplified through the integration of the payment and enforcement systems. While improved compliance results in fewer citations, under a parking payment system, the loss in revenue is usually balanced by a significant increase in fee revenue.

In Nantucket, the parking enforcement officers would be issued handheld license plate recognition ticketing units. The officers would follow a similar daily routine, except now they wouldn’t use chalk to track compliance but these units. They would use the LPR units to take an image of the license plates as they pass by, the unit would check a central database linked to the payment systems, and alert the officer when a vehicle is not paid up. These units will then print the ticket and automatically enter the citation into the central database.

For LPR vendor information, please see Appendix B.
First Ticket Forgiveness

As a major visitor destination, many people in downtown are there for the first time. Instituting a “First Ticket Forgiveness” program would improve the image of Nantucket as a welcoming destination. Under this program, a driver’s first annual citation would be waived instead receiving a warning with information about pricing, where parking is available, free parking, as well as biking and transit options.

Downtown Ambassadors

With the resulting improvements in officer efficiency, the downtown enforcement personnel will spend less time issuing citations and have more time to help visitors. Nantucket’s enforcement personnel would be trained in not only administering citations but also in helping visitors with directions around town, where to find free parking, the prices for parking, etc.

Zoning and Incentives

Zoning and incentive strategies generally use creative regulatory strategies to encourage more efficient use of existing resources. This may include mandates concerning how much parking can/must be provided or offering incentives to encourage particular travel behavior.

Based on the results of the workshops, offering financial incentives to encourage different parking behavior (cash-out), reinvesting parking revenue in the downtown public realm, and allowing developers to pay a fee in-lieu of required parking were incentives that Nantucket could use to manage parking.
**Cash Out**

A financial incentive would be offered to drivers if they would opt to park in remote lots and use the shuttle to get downtown. Under this program, drivers would initialize the in vehicle meter in certain designated remote lots and receive parking credits on their account. These credits could be used to pay for parking in downtown.

**Community Benefits Fund**

Each year, a portion of the parking revenues would be set aside to fund public realm improvements within the area the revenue was collected. A portion of this fund would support the cost of operating the remote parking shuttle. Other uses for the fund could include repairing sidewalks, adding landscaping, regularly repainting crosswalks, etc.

**In-Lieu Fee**

Given that Nantucket regularly waives off street parking minimum requirements for new development downtown, the Town could instead institute an in-lieu of parking fee that developers would pay into for each space they are unable to supply. This fund could be used for future parking supply expansions, the operation of the remote shuttle, or public realm improvements similar to the Community Benefits Fund.
Parking Pilots

- Based on input received during the February workshops, a series of parking pilots were also identified to test important aspects of the management program. Over 40 potential downtown stakeholders were contacted to participate in a focus group with the intent of discussing potential pilots for 2011. On May 12, 2011, twelve available respondents participated in a focus group convened by Nelson\Nygaard to discuss and share ideas about the potential pilots. Nelson\Nygaard also met with Town staff, including the Planning and Police Departments.

- As a result of the May 12th focus group discussion, details for up to six pilot parking programs were developed.

Based on the ideas discussed during the focus group, the following six parking pilots are recommended in order to test key aspects of a complete parking management program for downtown Nantucket.

These pilots are intended to test a number of concepts, including: willingness to pay to park; sensitivity to pricing; potential ticket revenues versus fee revenues; new wireless parking payment and enforcement technologies; and impact of pricing on availability. All pilots are designed to operate transparently, with virtually no changes to existing parking management and enforcement practices. All participation would be voluntary and there would be no change to any existing parking options and programs for anyone not participating.

The parking pilots include:

1A. Opt-in paid parking – testing willingness to pay, technology & sensitivity to pricing
1B. Pay-back remote parking – testing willingness to park remotely & responsiveness to incentives
2. Automated license plate recognition handheld units – testing technology, response to improved enforcement & staff efficiency improvements
3. Downtown evening valet parking – testing interest in valet services & impact on evening demand
4. Town lot evening paid parking demonstration – testing sensitivity to pricing & impact on availability
5. Private remote parking shuttle van – testing willingness to park remotely & willingness to fund a private shuttle

Each of these pilots is valuable for testing different aspects of the parking management program. Each pilot (except 1B) is able to be run independently of the others, though it is recommended that all should be run simultaneously.

1A. Opt-In Paid Parking

Purpose

- Evaluate the public willingness to pay for valuable parking privileges
- Test the reliability of wireless communication and GPS technology
Details

- Participants will have in-vehicle meters issued to them directly from a technology vendor to be used to pay to park without being ticketed for time limit violations.
- Propose to issue 100 in-vehicle meters with the intention to distribute to a wide range of user groups according to the following criteria:
  - A minimum of 10 and a maximum of 20 to each of the following user groups:
    - Downtown merchants/business owners
    - Downtown employees living outside downtown
    - Downtown residents
    - Summer residents
    - Businesses located outside downtown
  - No more than 2 per business
  - No more than 1 per household
  - Pricing would be on an escalating scale based on how long the person parks
- **District (1)** – Overlay in area with 1 hour or less time limits
  - 1-hour free parking (8am to 6pm), 2nd hour = $4, after 3 hours = $6, after 4 hours = $10, after 5 hours = $16, after 6 hours = $24
- **District (2)** – Overlay in area with 2 hour time limits
  - 2-hour free parking (8am to 6pm), 3rd hour = $4, after 4 hours = $6, after 5 hours = $8, after 6 hours = $14
- Participants will be surveyed before, during and after the pilot
- Downtown parking use data will be collected before and during the pilot

1B. Pay-Back for Remote Parking

**Purpose**
- Evaluate the public willingness to park remotely when offered financial incentives

**Details**
- If a participant in the paid parking pilot parks remotely (in one of the four NRTA park and ride lots), they will receive a small credit on their paid parking account that can be used towards future parking in downtown.
- In order to receive the credit, the car must be parked in designated remote lot and the in-vehicle meter must be turned on.
- Proposed credit of +$1 for each 3-hour block (7am to 10pm)
- Credit for remote parking will be issued using funds collected from those paying to park downtown (if there is an insufficient fund reserve for crediting participants, this part of the pay-for-parking pilot will be suspended or cancelled to ensure there are no financial liabilities)
- Participants will be surveyed before, during and after the pilot
- Parking use data will be collected in remote lots and downtown before and during the pilot
2. License Plate Recognition Units

**Purpose**
- Test the potential improvement to staff efficiency using license plate recognition
- Test wireless communications capabilities on Nantucket
- Test accuracy of GPS within the units
- Evaluate impact improved enforcement will have on violation rates

**Details**
- Equip enforcement personnel with a handheld license plate recognition ticketing unit
- All participating personnel (enforcement & administrative) will be surveyed before, during and after the pilot

3. Valet Pilot

**Purpose**
- Test the public interest in the use of valet services
- Evaluate impact valet services may have on parking demand

**Details**
- License a valet service to operate evenings from 6PM to 2AM
- Identify two valet stand locations on opposite sides of the downtown (e.g. the Barrett’s bus stop on Federal, and the Main Street taxi stand between Union and South Water)
- Allow valet to use the Saltmarsh Senior Center lot
- Valet operators and users will be surveyed before, during and after the pilot

4. Saltmarsh Lot Demonstration

**Purpose**
- Test the public willingness to pay for parking in a remote lot

**Details**
- Reserve the Saltmarsh lot for paid parking to be managed by the valet service in the evenings (6pm-2am)
- Parking use data will be collected before and during the pilot
- Provide a financial or in-kind contribution to the Saltmarsh Senior Center
APPENDIX A  SAMPLE VALET LICENSING LANGUAGE

From the City of Cambridge (http://www2.cambridgema.gov/traffic/ValetParking.cfm)

VALET PARKING GUIDELINES & PROCEDURES

I.  DEFINITIONS

Valet Space:  A 20-foot space on a public way along the curb in which the loading and unloading of possessions is legal.

Director:  Director of the Department of Traffic, Parking and Transportation.

Valet:  The operator who will drive a vehicle between the pick up/drop-off point and the parking area.

Parking Area:  An off street private parking facility which is licensed by the Town of Nantucket for commercial parking.

II.  PROCEDURE FOR OBTAINING VALET PARKING SPACE(S)

A.  Operator of the proposed valet parking program shall submit an application to the Director 30 days prior to the proposed starting date.

B.  The application shall include, but is not limited to the following:

1.  Name, address, phone number of valet operator;
2.  Name, address, phone number of the establishment for whom valet service is proposed;
3.  A detailed plan of the proposed pick up/drop off area, the number of spaces required and that the area meets the requirements of the Mass. Architectural Access Board (MAAB) and the Americans with Disabilities Act (ADA) requirements. If the pick up/drop off area does not meet the MAAB and/or ADA regulations, provide a plan showing mitigation to relieve issue;
4.  A detailed plan of the proposed area to be used for parking;
5.  A letter of agreement between the valet operator and the business which is being served stating the financial arrangements including how and when the customer pays for the service;
6.  A letter of agreement to access and use the proposed parking area which states the maximum number of valet vehicles allowed, and the total capacity of the facility;
7.  A detailed plan of the proposed valet operation, including hours and days of operations; routes to and from the parking area (s); number of valet; location and design of the proposed "valet" parking sign;
8.  Approval in writing that the proposed valet service meets the ordinances, rules and regulations of the City of Cambridge from the Inspectional Services Department, License Commission, Public Works Department and Department of Traffic, Parking & Transportation; and
9.  The valet service agrees to submit, to the Director, a report listing the number of vehicles serviced each day during an average week, three and twelve months after the valet service begins and annually thereafter.

III.  PERMIT

A.  The Director may issue a special street obstruction permit good for one year for valet parking.

B.  The Director shall reject any application which would adversely affect public safety or interfere with the free flow of pedestrian or vehicular traffic during the valet operating hours.
C. The Director may promulgate the required traffic regulations.

D. The Director shall approve the design and location of the "valet" parking sign. The applicant will be responsible for supplying and maintaining the approved sandwich board sign as well as its placement in the valet space.

E. If there is a parking meter(s) at the valet space(s) the applicant will be responsible for covering the parking meter(s) during the hours of valet operation. The bag used to cover the meter(s) shall be approved by the Director.

F. The cost for valet space shall be $20.00 per year per foot of curb required to operate the service safely between 6 P.M. and midnight on the days required.

IV. REVOCATION OF PERMIT

A. The Director may revoke a special valet permit for any of the following reasons:
   1. Double parking or double stopping at valet pick-up/drop off area;
   2. Use of more valet space than permit allows;
   3. Parking of vehicles on a public way by a valet;
   4. Vehicle(s) waiting to use the valet parking service area creating a traffic safety problem;
      or
   5. Situations created by the valet operation which adversely affect the safety of the general public or interfere with the free flow of pedestrian or vehicular traffic.

B. Upon receipt of a complaint, the Director will notify the permit holder in writing. Failure to correct the complaint within ten days will result in revocation of the special "valet" permit.

V. SPECIAL PROVISIONS

A. Any permit issued under these "Valet Parking Guidelines and Procedures" shall not be valid during a declared snow emergency, construction of the public way within a block of the valet area or when parking is restricted near the valet area for any public purpose.
From the City of Boston (http://www.cityofboston.gov/Images_Documents/Valet%20Parking_tcm3-17819.pdf)

VALET PARKING RULES AND REGULATIONS OF THE BOSTON TRANSPORTATION DEPARTMENT

Section 1.0 Introduction

The rules and regulations set forth herein shall be part of the Boston Transportation Department’s Traffic Rules and Regulations (“Department’s Rules and Regulations”). Valet parking permits shall be issued to the establishment serviced by the valet parking operation. Such establishments may contract with outside firms to conduct their valet parking operation. A valet parking permit allows the holder exclusive use of curb space during approved time periods and is authorized under the Transportation Department’s authority to regulate on-street parking. It is a privilege not a right. Valet parking helps promote the more efficient use of limited on-street parking spaces. No curb space shall be used for valet parking without a permit issued hereunder. A permit may be modified, suspended or revoked if the valet parking operation is not conducted in accordance with applicable law and these rules and regulations or if the valet parking zone is not being used for a valet parking operation for all or a portion of the approved time periods.

Section 2.0 General Provisions

Valet parking shall be the parking of a vehicle parallel to the curb in an approved valet parking zone for a maximum of ten minutes continuously while engaged in receiving or discharging passengers, loading or unloading of baggage or making arrangements to remove the vehicle to a designated off-street parking facility. Vehicles that are valet parked shall be transported to and parked at a designated off-street parking facility and shall not be parked in the valet parking zone or any other on-street parking spaces. The permit holder shall maintain or cause to be maintained records of use of an off-street parking facility and make such records available for inspection by the Department. Any vehicle parked in violation of the valet parking rules and regulations shall be subject to the issuance of a parking citation and the establishment and the valet operator shall be subject to the enforcement measures identified herein. The Department reserves the right to designate valet parking zones or require that more than one establishment be served from a single valet parking zone based upon local conditions such as traffic congestion, the demand for valet parking zones or the overall impact of valet operations in a particular area.

Section 3.0 Term and Public Comment

Valet parking permits shall be issued to establishments for the period July 1 through June 30. Special or one-day permits may be issued as provided in Section 10 below. All permits shall expire on June 30 of each year and must be renewed annually. The Department shall receive and maintain a log of comments and complaints throughout the year.
and shall designate a special renewal comment period commencing on April 1 each year related to the annual renewal of existing permits. The Department shall also provide notice to the applicable District City Councillor on all initial applications and may convene a public hearing on any initial application or renewal application and solicit comments on such application. Notice of any such hearings shall include a posting in City Hall and notice to the applicable District City Councillor and the persons who have commented on affected establishment.

Section 4.0 Coordination with other City Agencies and Departments

The Department shall coordinate its review and enforcement of valet parking operations with other City of Boston agencies including the Boston Police Department, the Licensing Board for the City of Boston and the Mayor’s Office of Consumer Affairs and Licensing by exchanging and sharing information with these agencies.

Section 5.0 Application for Valet Parking

An application for a valet parking permit shall be submitted on a form issued by the Department. Applications must be submitted by the establishment that will be serviced by the valet parking operation. Permits must be renewed annually and updated information must be submitted with a renewal application. The application form shall request the following information.

5.1 The name, address, and telephone and fax numbers of the establishment requesting a valet parking zone

5.2 The name, and telephone and fax numbers, including the daytime and nighttime numbers of the owner or general manager of the establishment.

5.3 The name and address and telephone and fax numbers of the valet parking operator that will be operating the valet service, and the daytime and nighttime telephone number and fax numbers of the owner or general manager of the valet company. A telephone pager number of the owner or general manager of the valet company shall also be provided. If a valet company will not be used, the same information shall be provided for the establishment.

5.4 The location and number of linear feet requested for the valet parking zone.

5.5 The days and actual hours of operation requested, the estimated number of vehicles that will be valet parked and the estimated number of valet attendants that will be present during each of the following periods: Monday through Friday during the daytime; Saturday and Sunday during the daytime; Sunday to Wednesday evenings; and Thursday to Saturday evenings.

5.6 A copy of the agreement between the valet parking operator or the establishment with the owner or operator of an approved off-street parking facility where the valet vehicles will be parked shall be submitted. Said agreements must include the following information: the location of the facility; the total number of parking spaces in the...
facility; and the total number of parking spaces that will be available for valet parked vehicles from the establishment.

5.7 A plan or map and a description depicting the proposed route that valet parking attendants will use to and from the off-street parking facility shall be submitted.

5.8 Evidence related to the use of an off-street parking facility during the term of a current permit shall be submitted for all renewal applications, provided that this requirement shall not apply for permits renewed for the period July 1, 1997 to June 30, 1998.

Section 6.0 Evaluation Procedures and Criteria

Upon receipt of a completed application, the Department shall provide a copy to the local Boston Police Department District where the proposed valet operation will be located. Review, comments and hearings shall be as provided in Section 3.0. All applications for an initial permit or renewal of an existing permit are subject to an evaluation by the Department in order to insure that there is safe and adequate vehicular access to and from the valet parking zone and that the vehicular traffic expected to be generated by the valet parking operation will not cause undue traffic congestion, block or impede the flow of traffic or pose a public safety hazard by delaying or preventing access in or throughout the area of the valet parking zone. The evaluation shall be completed promptly but no later than sixty days following receipt of a complete application. The evaluation shall consider the following:

6.1 The existing parking regulations on the block and in the general vicinity of the valet parking zone.

6.2 The anticipated number of vehicles that are proposed to be accommodated at the valet parking zone during each of the operating periods listed in Section 5.5 and the corresponding number of valet parking attendants that are proposed to be used during each such period.

6.3 The width and configuration of the streets at and in the general vicinity of the valet parking zone.

6.4 The accessibility issues such as turning movements required for vehicles that will enter and leave the valet parking zone.

6.5 The existing vehicular volumes on the streets and the on-street parking demand at and in the general vicinity of the requested zone during the time periods listed for the operation.

6.6 Pedestrian volumes at and in the general vicinity of the valet parking zone.

6.7 An assessment of the proposed route to and from the off-street parking facility under the following criteria: how direct is the route and is the distance between the establishment and the parking facility a reasonable walking distance (generally about 1,500 feet or a five minute walk).

6.8 The overall demand for valet parking zones at and in the general vicinity of the requested location during the operating periods listed on the valet parking application.
6.9 The record of the valet firm that will be providing the service. If a
valet firm will not be used, the same information as to the establishment.

Section 7.0 Determination and Issuance Procedures and Criteria

The Department shall determine whether and to what extent the application should be approved based upon the Department Rules and
Regulations and its statutory authority. The Department may accept and
consider comments from elected officials, residents and other city agencies and departments. Under the provisions of
these rules and regulations, an application may be approved in whole or in part, it may be
denied, or it may be approved subject to specific additional conditions
related to location and use characteristics such as the number of linear
feet, the exact location of the valet parking zone, the number of vehicles
that may be valet parked during each operating period listed in Section
5.5, the required number of valet attendants during each such operating
period and use of a single valet parking zone by more than one establishment. An approval notification shall be the
valet parking permit ("permit") and it shall include the information on the permit application, the
information set forth below and such additional as the Department may
determine. If an application is denied in whole or in part, or if it is approved subject to specific additional conditions, the
grounds for such
action shall be in writing and become part of the permit. The permit shall
include the following:

7.1 The term of the permit, the exact location and the number of linear
feet of the valet parking zone, the approved days and hours of operation, the maximum number of vehicles that can be
valet parked
and the minimum number of valet attendants required during each
of the approved operating periods, the name and address of the
designated off-street parking facility and the permit fee. Valet parking shall be allowed only during the approved days
and hours of
operation; and if the valet parking zone is not being used for a
valet parking operation for all or part of the approved time periods,
the permit may be modified or revoked. Only Department installed
valet signage shall be posted or placed on the street.

7.2 The requirement that all vehicles shall be parked at the off-street
parking facility listed on the permit and not parked in the valet zone
for longer than the allowed time limit or in any other on-street parking space. Valet vehicles that are parked in violation
of these provisions shall be subject to issuance of a parking citation and a violation notice may be issued to the
establishment and the valet operator, as determined by the Department.

7.3 That the operation of any valet parking operation is the responsibility of the permit holder, and a statement that the
permit holder
agrees to comply with the terms and conditions in the permit, the
valet parking rules and regulations and other regulations of the
Department.

7.4 The permit shall be available for inspection at the establishment at
all times.

7.5 Copies of the permit shall be provided to the local Boston Police
Department District where the proposed valet operation will be located, the applicable District City Councillor and other
city agencies including the Licensing Board for the City of Boston and the
Mayor's Office of Consumer Affairs and Licensing.

7.6 The permit shall be issued upon approval and payment of the applicable fees. Once approved, the Department shall install valet signage. Unless a permit is renewed, the valet parking signage will be removed upon expiration of the current permit.

7.7 In the event the Department determines that a valet parking zone should be designated or shared by more than one establishment, the Department shall inform the applicants and take steps to insure this determination is implemented in a cost effective and expeditious manner. Under this arrangement, the Department may require that one establishment be the permit holder and others be listed on the permit.

Section 8.0 Fees

The fees for the use of the curb space and signage are established by way of City of Boston Ordinance. Fees as of May 1997 are as follows: $40 per linear foot of curb space per year and $150 per sign for a five year period. The payment of the fees shall be on a schedule as determined by the Department.

Section 9.0 Enforcement

9.1 The Department shall maintain a complete file for each valet parking permit issued and for each valet parking company operating in the City. The files shall include all information relevant to the permit including application, approval letters, complaints, correspondence, reports and other related documents and information.

9.2 Conducting or operating a valet parking operation without a valet parking permit issued hereunder shall subject the establishment serviced by the valet parking operation and the valet operator to a fine not exceeding one thousand dollars for the first offense, and one thousand dollars for each subsequent offense. Each day on which a violation exists shall constitute a separate offense.

9.3 Valet parking permits may be suspended or revoked as set forth below, provided, however, that where a violation is a threat to public safety or welfare, a permit may be suspended or revoked prior to initiating the procedures below.

9.4 Transportation Department employees and Boston Police Officers are authorized to enforce these regulations. The Department shall maintain a log of valet parking complaints from elected officials, residents and other city agencies and Boston Police Department Incident Reports. Complaints and Incident Reports shall be maintained by permit zone and valet parking operator.

9.5 Complaints may be taken in person, by telephone or in writing. A complaint form, as determined by the Department, shall be used whenever practical. Copies of Complaints and Incident Reports received by the Department shall be provided to the permit holder and the valet parking operator.

9.6 On the basis of Boston Police Department Incident Reports or a violation notice issued under Section 7.2, the Department may issue a written warning to a permit holder. A written warning shall
identify the nature of the problem and may state corrective action. Copies of written warnings will also be provided to the appropriate valet parking operator.

9.7 The Department may undertake compliance inspections from time to time and it may undertake investigations based upon Complaints, Incident Reports or violation notices. On the basis of inspections or investigations the Department may issue a written warning to a permit holder, as described in Section 9.6.

9.8 Following the issuance of at least one written warning to a permit holder, the Department may schedule a hearing if it receives an additional Complaint or Incident Report or if a compliance inspection reveals a problem. The purpose of the hearing will be to receive additional information and determine if additional enforcement measures are warranted. The permit holder shall be provided prior written notice of the hearing and may attend and present information. Following a hearing, the Department shall issue its determination as to what, if any, additional enforcement measures to take. Such measures may include an additional written warning or a modification, suspension or revocation of the permit.

9.9 Actions involving the modification, suspension or revocation of a permit shall be based upon the severity of the problem and, generally, shall be imposed after a hearing. A first suspension shall be for a period of not more than five days; a second suspension shall be for a period of not more than ten days; and a third suspension shall be for a period of not more than fifteen days. Following the third suspension the Department may, following a hearing, impose an indefinite suspension or it may revoke the permit.

9.10 Copies of written warnings, suspensions and revocations issued by the Department under this section shall be provided to other city agencies including the Police Department, the Licensing Board for the City of Boston and the Mayor’s Office of Consumer Affairs and Licensing.

Section 10.0 Special or One-Day Permits

The Department may, in its discretion, issue special or one-day permits for valet parking. Such permits shall, as determined by the Department, comply with all of the provisions hereunder, and applications for such permits shall be submitted no later than seventy-two hours prior to the date of the event.

Section 11.1 Severability

If any section or part hereof is held invalid, the remainder shall not be affected by such holding. City of Boston Valet Parking Permit Application DATE_____________(Issued July 1 to June 30 and must be renewed annually)

Applicant Information (location where valet operation is proposed, a location may include more than one street provided that it is contiguous)
1. Business Name

2. Address: Street __________________________ City: __________________________ Zip Code: __________________________

3. Owner/General Manager

   Day Phone # ___________________ Fax # _________________ Evening Phone # ___________________ Pager # ___________________

   Valet Information

   1. Valet Company

   2. Address: Street __________________________ City: __________________________ Zip Code: __________________________

   3. Owner/General Manager

   Day Phone # ___________________ Fax # _________________ Evening Phone # ___________________ Pager # ___________________

   4. Valet Zone Location __________________________________________________________ Linear Feet __________________

   5. Off-Street Facility to be utilized (Name and address of facility)

   ________________________________________________________________________________

6. For the Applicable Days and Hours of the Valet Operation, please list the Estimated Number of Vehicles during the Time Period and the Estimated Number of Valet Attendants that will be assigned during those periods.

   Daytime Monday to Friday:

<table>
<thead>
<tr>
<th>HOURS</th>
<th>(# OF VEHICLES)</th>
<th>(# OF ATTENDANTS)</th>
</tr>
</thead>
</table>

   Daytime Saturday and Sunday:

<table>
<thead>
<tr>
<th>HOURS</th>
<th>(# OF VEHICLES)</th>
<th>(# OF ATTENDANTS)</th>
</tr>
</thead>
</table>

   Evenings Sunday to Wednesday:

<table>
<thead>
<tr>
<th>HOURS</th>
<th>(# OF VEHICLES)</th>
<th>(# OF ATTENDANTS)</th>
</tr>
</thead>
</table>

   Evenings Thursday to Saturday:

<table>
<thead>
<tr>
<th>HOURS</th>
<th>(# OF VEHICLES)</th>
<th>(# OF ATTENDANTS)</th>
</tr>
</thead>
</table>

   Required Attachments

   Please identify by name and street address and attach a map or plan and a description showing the proposed route that valet parking staff will use to and from the off-street parking facility.

   Please attach a copy of the agreement between the valet company or the establishment with the owner or operator of an approved offstreet parking facility where the valet vehicles will be parked. Said agreement must include the following information: the total number of parking spaces in said facility; and the total number of parking spaces available for use by valet parked vehicles from the establishment.
Sign below & submit to City of Boston, Transportation Dept, Off-Street Parking Division, 43 Hawkins Street, Boston, MA 02114
APPENDIX B  HANDHELD AUTOMATED LICENSE PLATE RECOGNITION UNIT VENDORS

ParkTrak
Karla Baig
Assistant Vice President, Business Development, Northeast US
ParkTrak, Inc.
Mobile: (973) 953-3040  E-mail: KBaig@parktrak.com
Website: www.parktrak.com

INEX/ZAMIR
10870 Murdock Drive
Knoxville, TN 37932
865-671-1400
info@inexzamir.com
http://www.inexzamir.com/

CitySync Technologies, Inc.
Galleria Tower 1
2700 Post Oak Blvd
Suite 1400
Houston, TX 77056
USA

Office: +1.832.369.7502
Fax: +1.281.657.3301
sales@citysynctech.com
APPENDIX C  ORIGINAL PARKING MANAGEMENT PROGRAM
Table of Contents

Chapter 1. Background ........................................ 1

  2.1. Management ................................................. 6
  2.2. Enforcement ................................................ 6
  2.3. Parking Inventory ........................................ 8
  2.4. Regulatory System ....................................... 8
  2.5. Parking Utilization ...................................... 11
  2.6. Key Observations ........................................ 26

Chapter 3. Evaluating Best Management ........ 31
  3.1. Strategies .................................................... 31
       3.1.1. Supply Enhancement ..................................... 32
       3.1.2. Improved Enforcement .................................. 33
       3.1.3. Demand Management ................................... 34
       3.1.4. Zoning and Incentives ................................ 35
  3.2. Goals and Considerations ....................... 36
  3.3. Method of Evaluation .................................... 37

Chapter 4. Parking Package .......................... 43
  4.1. Package Selection ......................................... 43
  4.2. Community Involvement .................................. 43
  4.3. Parking Packages .......................................... 45
       4.3.1. Community Goals Parking Package ..................... 45
       4.3.2. Public Preferred Parking Package ..................... 45
       4.3.3. Hybrid Parking Package ................................. 46
  4.4. Development of Potential Parking Program 47
       4.4.1. Overall Management Strategy .......................... 48
  4.5. Example Parking Management Program ...... 49
       4.5.1. Market Rate Pricing .................................... 49
       4.5.2. Eliminate Time-Limits .................................. 50
       4.5.3. Parking Permit Program ................................. 51
       4.5.4. Revenue Collection Plan ............................... 52
       4.5.5. Parking Supply Management ............................ 53
Table of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Nantucket Parking Study Area</td>
<td>5</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Nantucket Parking District Boundaries</td>
<td>6</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Zones of Seasonal Enforcement</td>
<td>7</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Parking Inventory &amp; Time Limits</td>
<td>9</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Time-Limit Regulations Map</td>
<td>10</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Friday Parking Profile</td>
<td>12</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Friday Core Parking Profile</td>
<td>12</td>
</tr>
<tr>
<td>Figure 8</td>
<td>Friday Outer Parking Profile</td>
<td>13</td>
</tr>
<tr>
<td>Figure 9</td>
<td>Saturday Parking Profile</td>
<td>13</td>
</tr>
<tr>
<td>Figure 10</td>
<td>Saturday Core Parking Profile</td>
<td>14</td>
</tr>
<tr>
<td>Figure 11</td>
<td>Saturday Outer Parking Profile</td>
<td>14</td>
</tr>
<tr>
<td>Figure 12</td>
<td>Main St. Friday Parking Profile</td>
<td>15</td>
</tr>
<tr>
<td>Figure 13</td>
<td>Main St. Saturday Parking Profile</td>
<td>15</td>
</tr>
<tr>
<td>Figure 14</td>
<td>Easton St. Friday Parking</td>
<td>16</td>
</tr>
<tr>
<td>Figure 15</td>
<td>Easton St. Saturday Parking</td>
<td>16</td>
</tr>
<tr>
<td>Figure 16</td>
<td>Friday 10:00 AM Utilization Map</td>
<td>18</td>
</tr>
<tr>
<td>Figure 17</td>
<td>Friday 12:00 PM Utilization Map</td>
<td>19</td>
</tr>
<tr>
<td>Figure 18</td>
<td>Friday 5:00 PM Utilization Map</td>
<td>20</td>
</tr>
<tr>
<td>Figure 19</td>
<td>Friday 7:00 PM Utilization Map</td>
<td>21</td>
</tr>
<tr>
<td>Figure 20</td>
<td>Saturday 10:00 AM Utilization Map</td>
<td>22</td>
</tr>
<tr>
<td>Figure 21</td>
<td>Saturday 12:00 PM Utilization Map</td>
<td>23</td>
</tr>
<tr>
<td>Figure 22</td>
<td>Saturday 5:00 PM Utilization Map</td>
<td>24</td>
</tr>
<tr>
<td>Figure 23</td>
<td>Saturday 7:00 PM Utilization Map</td>
<td>25</td>
</tr>
<tr>
<td>Figure 24</td>
<td>Supply Enhancement Strategies</td>
<td>32</td>
</tr>
<tr>
<td>Figure 25</td>
<td>Improved Enforcement Strategies</td>
<td>33</td>
</tr>
<tr>
<td>Figure 26</td>
<td>Demand Management Strategies</td>
<td>34</td>
</tr>
<tr>
<td>Figure 27</td>
<td>Zoning and Incentive Based Strategies</td>
<td>35</td>
</tr>
<tr>
<td>Figure 28</td>
<td>Key Considerations</td>
<td>36</td>
</tr>
<tr>
<td>Figure 29</td>
<td>Parking Program Goal Statements</td>
<td>37</td>
</tr>
<tr>
<td>Figure 30</td>
<td>Strategy Scoring Matrix</td>
<td>37</td>
</tr>
<tr>
<td>Figure 31</td>
<td>Strategy Evaluation Summary Matrix</td>
<td>39</td>
</tr>
</tbody>
</table>
Chapter 1. Background .............................................1
Chapter 1. Background

Nantucket island — 14 miles in length and 3 1/2 miles wide — combines with the small islands of Tuckernuck and Muskeget to form the Town (and County) of Nantucket, Massachusetts. It is frequently claimed that, in the tongue of its native inhabitants, the name Nantucket translates to “The Faraway Land”. This crescent-shaped island, located 30 miles off the south coast of Cape Cod, may no longer feel so far away, but it is still often described as inhabiting “a world by itself”. Native Americans are also said to have referred to the island as “Canopache,” or “place of peace.

Like most bucolic seaside destinations, the inhabitants and government stakeholders of Nantucket finds themselves compelled to protect the island’s charms from the impacts of both its tremendous appeal to mainland populations and the modern transportation means that make the island more accessible than ever — and incline visitors, employees, and residents more then ever to seek accommodation for their personal automobiles while on the island. This is a particular challenge during the summer months when tourists and vacation-home owners increased the town’s population from around 10,000 inhabitants to between 50,000 and 60,000.

During this busy season, the Town encourages visitors to limit the use of the cars they bring with them by providing a seasonal shuttle transit system. There are also miles of town-maintained bike paths. And for day trips and short stays, the downtown is highly walkable. Yet, as pointed out in recent transit and parking studies by Tetra Tech Rizzo and others, the combination of modern travel sensibilities and a lack of demand-responsive parking management practices (even in the downtown core) currently work against the potential of these investments to reduce the impact of local vehicle trips on the historic downtown.

Therefore, the purpose of this study is to identify possible modern parking management solutions that can help support transit and other multi-modal investments that help to protect the historic charm of downtown Nantucket, by minimizing the disruptive impacts of personal vehicles competing for a limited supply of parking. This report presents various options that have been identified as possible parking management strategies for use on Nantucket, and places these various options in a context that can help citizens and civic leaders decide on policies that best fit the needs of Nantucket.

This document consists of several interrelated but separate sections: an analysis of the results from an existing parking utilization study (conducted in the summer of 2009 by Tetra Tech Rizzo), a review of parking best management practices that describes various strategies and technologies that are used in parking management, a description of the public outreach efforts and results, and a parking management package selected from the best practices based on the public outreach results and assembled so that they may meet the needs and goals of Nantucket.
CHAPTER 2
Current Parking Environment
Chapter 2. Current Parking Environment

Through discussions and interviews with civic leaders, ReMain staff and local stakeholders, several public workshops, and an analysis of parking data, the study team has developed an understanding of the intricacies of parking operations in downtown Nantucket. No parking utilization data collection was conducted exclusively for this report; instead, this chapter makes use of data collected by Tetra Tech Rizzo during the summer of 2009. The following chapter summarizes the existing operational environment, including the management system, enforcement method, regulations, inventory, and an analysis of utilization patterns facilitated by a geographic distribution of the parking utilization results of Tetra Tech Rizzo’s study.

The Nantucket parking study area is loosely defined by Easton, Center, Water, Lily, Liberty, Main, Pleasant, Silver, Weymouth and Francis Streets, as seen in Figure 1. Tetra Tech Rizzo’s study area was broken down into two distinct geographies, the core area and the peripheral/outer area. The study area and the distinct areas of analysis closely resemble the boundaries of Nantucket’s parking district boundaries, as seen in Figure 2.

Source: Map provided by Nantucket and the Tetra Tech Rizzo Parking Study (1-25-2010)
2.1. Management

The current on-street parking management regime consists of free time-limited on-street parking, a residential parking permit system, and the issuance of tickets for violations. The public on-street parking evaluated in the summer 2009 study is regulated through time-limits that all drivers are subject to follow unless the driver:

A) is a resident living within the residential parking district (see Figure 2) who holds a residential parking permit,

B) is a guest at a downtown accommodation that provides temporary residential parking permits, or

C) holds a special use permit such as for a disability or for contractors.

Drivers with one of these permits are able to park for extended periods without fear of ticketing.

2.2. Enforcement

There are several zones of enforcement distinguished by specific periods of active enforcement. With the exception of a few blocks in the center of the core that are enforced year-round, the majority of the time-limits are only actively enforced during the prime tourist season – roughly from late spring through early fall. A total of four enforcement seasons are posted in the downtown as illustrated in Figure 3.

Adherence to parking time-limits is managed by the police department with the assistance of seasonal enforcement staff for the tourist peak. The enforcement staff patrol a certain area throughout the day monitoring each vehicle’s length of stay. This is done through chalk markings on the tire and on the curb. If the chalk marking on the tire lines up
with the marking on the curb, the vehicle has not moved. If a vehicle is still in the same space beyond the permitted time, the enforcement personnel will issue a citation. This is a labor intensive enforcement system.

Inherent in a time-limit regulated management system is a tendency for drivers to avoid tickets by moving their vehicles every hour, two hours, or whatever the time limit dictates. Recognizing this common behavior, Nantucket has instituted a regulation stating that a vehicle is required to move at least fifty feet from its initial space for it to reinitiate the time limit. This introduces a great deal of additional traffic every hour in the core or two hours in the surrounding downtown – traffic generated solely by vehicles that have no reason to be moving aside from shuffling to avoid tickets.

Current parking fines:

- $50 for nuisance violations (time limits, permits, taxi stands, etc.)
- $100 for handicapped-space violations
- $100 - $300 for “by law” violations (fire hydrant, driveways, crosswalks, etc.) depending on the number of violations received.

Figure 3 Zones of Seasonal Enforcement

Source: Map provided by the Town and County of Nantucket (http://www.nantucket-ma.gov/pages/nantucketma_it/gismapsfolder/parkingenforcement.pdf), Accessed June 30, 2010
2.3. Parking Inventory

The parking examined in the 2009 parking study was limited to public general use on-street parking spaces. The entire study area has a total of 988 spaces that are analyzed in this chapter. The core area contains 276 of these spaces and the outer area has the remaining 712. Tetra Tech Rizzo’s utilization study was limited, so no utilization data\(^1\) was collected for nearly 650 spaces comprised of restricted use on street spaces, public off street spaces, and private parking lots (excluding residential parking).

2.4. Regulatory System

Regulatory Signage

Parking regulatory signage is used to inform drivers of regulations governing the use of the parking spaces, streets, or public lots. Signs identify time-limits, restrictions, and prohibitions. Downtown Nantucket on-street parking has signage with an attractive historic color scheme unique to Nantucket. Even so, there is an abundance of signage on the sidewalks that detracts from appeal of the historic downtown.

Signed Sidewalk Parking

Several historic streets in downtown Nantucket are too narrow for an on-street parking lane and a travel lane to exist side-by-side. Nonetheless there are a number of these narrow streets that have signed public parking. Allowing parking here forces drivers to park on the sidewalk, as can be seen regularly on streets such as Liberty Street. The practice has become accepted among islanders, and it can even be observed on streets where there is sufficient space for both a parking land and a travel lane, such as North Center and Cambridge Streets. The consulting team has never seen this practice sanctioned in any other community in the United States. It is always an enforceable violation due to the impact upon sidewalk infrastructure and minimum pedestrian right-of-way – especially given the Americans with Disabilities Act of 1996 (ADA). Sidewalk parking has several negative impacts:

- Intrudes on the pedestrian right-of-way, making sidewalks – especially on Nantucket – hard to pass on foot. Those with strollers and – even worse – persons with disabilities are forced into the vehicle travel lane. This is in direct conflict with the ADA, and the Town of Nantucket has already been cited for these and other ADA violations;
- Detracts from the visual appeal of Nantucket’s quaint downtown streetscapes, clearly emphasizing that cars have – literally – overrun the downtown; and,
- Damages the integrity of the historic brick sidewalks, leading to drainage and maintenance problems, as well as trip hazards for pedestrians.

\(^1\) The lack of data on private parking or public off-street parking represents a notable gap in available data.
Pavement Markings

Some on-street parking restrictions are communicated through pavement markings. Several areas with no parking - for instance near corners and fire hydrants - have single yellow lines parallel to the curb around 2 feet in from the edge of the pavement.

Regulations

Time-Limited Regulations

As a whole, the study area parking is largely comprised of 2-hour spaces, with the majority of those spaces outside of the core. The outer area is almost exclusively 2-hour spaces with a small number of 1-hour spaces and a few with 30-minute time limits near the core. The core is primarily spaces with 1-hour or 30-minute limits with a small number of 2-hour spaces and a handful of 15- and 20-minute spaces scattered throughout the core area (see Figure 4).

Figure 4  Parking Inventory & Time Limits

<table>
<thead>
<tr>
<th></th>
<th>Core</th>
<th>Outer</th>
<th>Study Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-minute</td>
<td>2</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>20-minute</td>
<td>7</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>30-minute</td>
<td>63</td>
<td>9</td>
<td>72</td>
</tr>
<tr>
<td>1-hour</td>
<td>180</td>
<td>60</td>
<td>240</td>
</tr>
<tr>
<td>2-hour</td>
<td>24</td>
<td>643</td>
<td>667</td>
</tr>
<tr>
<td>Total</td>
<td>276</td>
<td>712</td>
<td>988</td>
</tr>
</tbody>
</table>

Time-limits and the zones of seasonal enforcement appear to roughly coincide. In general, the 30-minute spaces coincide with the few blocks that are actively enforced year-round; the 1-hour spaces are loosely contained in the remainder of the core that is actively enforced from spring to fall; and the 2-hour spaces are within the outer area that sees enforcement only during the peak summer season.

Figure 5 summarizes the regulatory time-limits and parking inventory.

Residential Parking Permits

Residential parking permits allow a vehicle to park anywhere in the Residential Parking Permit District where parking is not prohibited. Nantucket issues residential parking permits to anyone residing within the district – property owners and renters alike. Anyone is able to purchase one of the permits for $10 when they submit an application between the beginning of October and the end of May. This likely benefits year-round residents and property owners who are still in Nantucket during the low tourism season. When the pass is purchased during the high tourism summer season, the permits cost $50 and is most likely purchased by visitors and seasonal residents.

Transferable Temporary Permit Placards

Guesthouse and hotel owners within the Residential Parking Permit District are able to purchase permits to provide to their guests. These permits are $50 a permit issued at a rate of 1 permit for every 3 guest rooms. The total number of placards potentially issued to an establishment is reduced by any spaces owned or leased by the hotel or guesthouse.
Figure 5  Time Limit Regulations Map
2.5. Parking Utilization

Parking utilization data was collected on two separate days in dry fair weather conditions in order to capture snapshots of two different typical high season parking use patterns, Friday July 31st and Saturday August 1st. Beginning in the morning, Tetra Tech Rizzo staff counted the number of parked cars and vacant spaces in all public general use on-street parking areas within the study area. The data was collected on each day for four distinct time periods beginning at 10:00 am, 12:00 pm, 5:00 pm and 7:00 pm.

The following section describes parking utilization in downtown. Utilization patterns are examined by time of day, day of week, and geographic location.

The utilization profiles subsection explores and compares utilization based on the time of day and day of week through parking utilization profile charts. These profiles show how many spaces are occupied and how many are available, providing visual representation for comparing occupancy and availability at different points in the day.

The geographic utilization subsection uses maps to illustrate geographic distribution of parking occupancy across the different time periods and days. These maps clearly illustrate the percentage occupancy for all public on-street parking, broken out by block face.

BASICS OF PARKING UTILIZATION

Parking utilization looks at the number of parking spaces that are occupied versus those available at certain points of the day. This is generally described using the percent of parking capacity that is occupied. For instance, a parking lot with 100 parking spaces and 30 parked vehicles has a parking utilization rate of 30-percent.

In the case of off-street parking, the optimal utilization rate is generally accepted to be 90-percent. The example lot described above would have 10 empty spaces. Above 90-percent, parking is beyond the functional capacity of the lot and many drivers would consider it full.

The on-street parking optimal utilization rate is 85-percent. At this point, a driver can expect to find 1 free space for every 7 occupied. Above 85-percent, occupancy is beyond functional capacity causing drivers to circle in search of a vacant space.
Utilization Profiles

General Observations

The following summarizes the utilization of a typical high demand Friday and typical high demand Saturday.

Friday

As demonstrated in Figure 6, Friday parking utilization for the entire study area hovers just below the 85-percent optimal occupancy rate across many time periods leaving around 200 parking available spaces. In the evening utilization exceeds functional capacity, reaching roughly 90-percent occupancy, or only 85 spaces available. With Friday evening demand above the functional capacity, many drivers feel there is no parking available, occasionally causing drivers to park illegally or simply give up and leave downtown.

As seen in Figure 7, Friday utilization rates in the core area are slightly higher than those for the entire study area, leaving around 40 spaces available (roughly 85-percent occupied) at every time other than during dinner. With many restaurants in this area, the dinnertime spike is more pronounced. During dinnertime, parking utilization levels are well in excess of signed capacity – 105-percent occupancy, or 15 more parked vehicles than marked spaces – leaving no available spaces and several vehicles parked in locations not designated as parking.

As seen in Figure 8, the periphery of the study area has lower but still significant utilization rates throughout Friday. Utilization remains consistently around 75-percent. However, occupancy still spikes during the dinner hour (to 85-percent), indicating that this area hosts vehicles that spillover from the core area, which is over capacity.
Saturday

Parking occupancy rates are higher overall on Saturday compared to Friday, demonstrating that Nantucket is a tourism-oriented community. Saturday parking utilization approaches or exceeds the 85-percent mark throughout the day, as can be seen in Figure 9. Saturday utilization rates also exhibit a double peak pattern, with the highest occupancy rates at 10:00 am and 7:00 pm. This likely reflects both the fact that weekday workers are home on the weekend as well as the fact that visitors to Nantucket frequently go to the beach in the middle of the day—meaning more visitors are in town to eat breakfast and pick up supplies for the beach, and they then return in the evening to do some shopping and/or get dinner. At dinnertime, the utilization approaches 94-percent for the entire downtown study area. With only 62 spaces available (out of 988), this is the highest demand period of all time periods observed.

As shown in Figure 10, the core area exhibits the same double peak pattern as the entire study area and is most heavily utilized in the evening. As with Friday, utilization rates at dinnertime are in excess of signed capacity, at 108-percent.

In the outer area, Saturday utilization is around 10-percent higher than the same periods on Friday. As can be seen in Figure 11, the double peak pattern is still discernable but less extreme than the core. This is likely representative of downtown residents leaving their cars in place while they relax on their days off.
Figure 10  Saturday Core Parking Profile

Figure 11  Saturday Outer Parking Profile
Detailed Observations

The preceding section is focused on overall trends across large geographies, broken down by day. In this section, two separate streets undergo the same assessment. Main Street was chosen to be representative of downtown Nantucket’s high-demand parking locations, and Easton Street as representative of a low demand street.

Main Street

Main Street runs east-west through downtown Nantucket’s core. It is a major destination for visitors, employees, and residents alike. In the core, it is a one-way street lined on both sides with head-in parking to provide drivers with front door access to the numerous shops, restaurants, and offices on the street. The street has a double peak utilization pattern on weekdays, with peaks in the morning and evening. With premium access to shopping and dining, Main Street exhibits utilization rates at or above the optimal 85-percent point throughout Friday (Figure 12) and at or above 95-percent occupied throughout Saturday (Figure 13). As could be expected given this street’s proximity to many restaurants and tourist destinations, a high percentage of available spaces are utilized during the morning rush, evening dining hours, and all day Saturday.

Figure 12  Main St. Friday Parking Profile

Figure 13  Main St. Saturday Parking Profile
**Easton Street**

Easton Street is a mostly residential street located near the northern boundary of the study area. Within a five minute walk of Main Street, it could easily serve drivers destined for the core. However, utilization on Easton Street never exceeds 60-percent on either Friday or Saturday.

Parking utilization rates on Easton Street are considerably lower than the remainder of the study area throughout both Friday and Saturday. Friday’s peak demand occurs at lunch with just over 50-percent of the potential parking spaces occupied (Figure 14).

Nantucket has more visitors on Saturday than Friday which is reflected in predictably higher utilization rates on Saturday. As can be seen in Figure 15, Easton utilization generally stays around the 60-percent mark throughout Saturday. There is no discernable peak time for Saturday; however, there is a noticeable dip in the afternoon – potentially attributable to visitors leaving downtown for the beach.

**Figure 14  Easton St. Friday Parking**

![Easton St. Friday Parking](image)

**Figure 15  Easton St. Saturday Parking**

![Easton St. Saturday Parking](image)
Geographic Utilization

The following maps graphically summarize parking utilization for each day and time period for the entire study area. Figure 16 through Figure 19 illustrate Friday parking utilization and Figure 20 through Figure 23 show Saturday utilization. It should be noted that utilization in several specific locations occasionally hits 100-percent or even surpasses it, most notably at 7:00 pm. Two-hour parking spaces in the outer area maintain high occupancy rates throughout the day, even at times when parking vacancies exist in the core. This likely reflects residential parking permit holders storing their vehicles near their home, guest house, or hotel while they go about their business on foot, bike, NRTA shuttle, or in another car.
Figure 16  Friday 10:00 AM Utilization Map
Figure 17  
Friday 12:00 PM Utilization Map

Source: Map created by Nelson\Nygaard, data provided by Tetra Tech Rizzo
Figure 18  Friday 5:00 PM Utilization Map
Figure 19    Friday 7:00 PM Utilization Map

Source: Map created by Nelson\Nygaard, data provided by Tetra Tech Rizzo
Figure 20  Saturday 10:00 AM Utilization Map

Source: Map created by Nelson\Nygaard, data provided by Tetra Tech Rizzo
Figure 21  Saturday 12:00 PM Utilization Map
Figure 22  Saturday 5:00 PM Utilization Map
Figure 23  Saturday 7:00 PM Utilization Map
2.6. Key Observations

Based on available data, a variety of key observations can be made as follows.

**Management**
- Parking is managed through the use of regulatory time limits and a resident parking permit program.

**Enforcement**
- Parking enforcement is seasonal with only a few core blocks enforced year-round.

**Inventory**
- The downtown study area has 988 spaces, 276 in the core and 712 in the outer area.
- The outer core has 712 spaces that are primarily (65%) 2-hour parking.
- The core has 276 spaces that are primarily (90%) 1-hour parking.

**Regulatory System**
- Parking signage is plentiful; possibly too plentiful, to the point of cluttering the sidewalks.
- Signed sidewalk parking detracts from the historic downtown’s visual appeal, and potentially conflicts with the Americans with Disabilities Act.
- There are no on-street spaces that allow general use parking for more than 2-hours without a residential parking permit.

- Residents – both property owners and renters – can purchase an annual residential parking permit that allows the driver to park without violating time limits.
- Guesthouses and hotels can purchase a limited number of transferable permit placards to provide to visitors.

**Utilization**
- Parking in Nantucket is especially seasonal.
- Parking demand is at its highest during the summer season.
- Parking utilization rates are higher on weekends than weekdays, likely due to a higher number of visitors.
- Parking utilization rates are higher in the evening than during the day, likely due to restaurant patronage.
- Dinnertime parking rates in the core exceed signed capacity.

**Core Area**
- The core area peak hour occurs at 7:00pm on Saturday at 108% with 297 vehicles in an area with only 276 signed spaces.
- Parking utilization surpasses signed capacity in the core at dinner time both Friday and Saturday night.
- On Friday, core parking utilization remains near the optimal 85-percent occupancy with the exception of a single peak at 7:00 pm.
• Saturday utilization peaks above the optimal rate at 10:00 am and at 7:00 pm and remains below it in the middle of the day.

• There is greater availability midday Saturday than the same time on Friday.

**Outer Area**

• Saturday is more occupied throughout the day than Friday.

• The outer area peak hour occurs at 7:00 pm on Saturday at 90-percent with 629 vehicles in an area with 712 signed spaces.

• On Friday, outer area parking utilization remains just above 75-percent occupancy with the exception of a single peak of 85-percent at 7:00 pm.

• Saturday utilization in the outer area remains above 85-percent all day with the exception of 5:00 pm.

**Entire Study Area**

• Downtown Nantucket’s highest demand occurs on Saturday nights at 7:00 pm when utilization is at 94-percent with 926 vehicles occupying the 988 potential spaces.

• Friday utilization rates remain relatively flat overall at just below 80-percent with the exception of the dinner peak at 7:00 pm when downtown parking is roughly 90-percent occupied.

• Saturday utilization rates exhibit two peaks, 88-percent at 10:00 am and 94-percent occupied.

• Conclusions about overall utilization cannot be definitively stated because of the lack of data (beyond anecdotal) about the use of public and private off-street lots.
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CHAPTER 3
Evaluating Best Practices

Nelson\Nygaard Consulting Associates
September 2010
Chapter 3.  Evaluating Best Management ....... 31
3.1.  Strategies ....................................................... 31
  3.1.1.  Supply Enhancement .................................. 32
  3.1.2.  Improved Enforcement ............................... 33
  3.1.3.  Demand Management ................................. 34
  3.1.4.  Zoning and Incentives ............................... 35
3.2.  Goals and Considerations ......................... 36
3.3.  Method of Evaluation ................................. 37
Chapter 3. Evaluating Best Practices

There are many parking strategies employed in the operation of parking systems throughout the world. This chapter describes the best practices of most of the known strategies and describes methods for evaluating how they might apply in Nantucket. The methodology was developed to acknowledge that many of the most successful parking strategies are not appropriate for a community like Nantucket. For example, the scale of certain strategies – such as computerized real-time parking availability signs – are good for an urban setting but not Nantucket; other strategies simply conflict with the unique character of Nantucket – such as parking meters. Rather than presuming what does or does not work in Nantucket, a methodology was built to help the Town and stakeholders evaluate what strategies are most appropriate. The results of applying this evaluation methodology to the universe of parking strategies are presented in the next Chapter.

3.1. Strategies

This section briefly describes each strategy considered in this report. Appendix A provides greater detail about each strategy and their evaluation considerations. The strategies presented here and in Appendix A are grouped into one of four general categories: supply enhancement, demand management, improved enforcement, or zoning and incentives. Each strategy described below is also shown in Figure 31, where it is associated with a number (i.e., 1.4.3. In-lieu Fees…) that corresponds to the section number in Appendix A. The appendix also includes a short case study for most strategies – mostly from places with characteristics similar to Nantucket.
3.1.1. Supply Enhancement

The examples of supply enhancement techniques described below include reverse-angle parking, remote parking, tandem parking or stackers – which expand supply – and real-time availability displays – which improve drivers’ knowledge of available parking spaces. These strategies enhance the existing supply through one or more of the following methods:

- Marginally increasing the capacity of existing facilities.
- Improving availability information presented to the driver.
- Making more efficient use of existing facilities with excess capacity.

**Figure 24 Supply Enhancement Strategies**

<table>
<thead>
<tr>
<th>Supply Enhancement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse Angle Parking</td>
<td>Parking spaces are arranged in an angled pattern, but drivers back in to the space instead of heading in. This improves safety for all travelers by allowing drivers to see oncoming traffic when they pull out.</td>
</tr>
<tr>
<td>Real-time Space Availability Displays</td>
<td>Digital displays provide live information to drivers about current parking conditions (location of available spaces).</td>
</tr>
<tr>
<td>Remote Parking</td>
<td>Encourage use of existing or new off-site or fringe parking facilities, often coupled with a shuttle program.</td>
</tr>
<tr>
<td>Valet</td>
<td>Attendants bring the drivers’ vehicles to less convenient locations -such as remote parking facilities or spaces the establishment leases nearby- and retrieve the vehicle for the departing customers.</td>
</tr>
<tr>
<td>Tandem and Stackers</td>
<td>Tandem: at least two vehicles park end-to-end, aside from the most recently parked, no vehicle has independent access (vehicles must move to provide access). Stackers: vertical tandem parking (2-4 cars high).</td>
</tr>
</tbody>
</table>
3.1.2. Improved Enforcement

This section consists of technologies that simplify or streamline the enforcement procedures in some way, either tools that enhance the enforcement officer’s ability or automating monitoring procedures. This includes descriptions of handheld ticket units, curbside sensors, and automated license plate readers.

**Figure 25 Improved Enforcement Strategies**

<table>
<thead>
<tr>
<th>Improved Enforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Handheld Units</strong></td>
</tr>
<tr>
<td>Parking enforcement personnel carry handheld computers or PDAs that scan windshield registration stickers, print tickets, and transmit citation information to a central computer.</td>
</tr>
<tr>
<td><strong>Curbside Sensors</strong></td>
</tr>
<tr>
<td>Sensors embedded into parking spots actively monitor status of every metered parking space 24/7 (links parking meters to sensors and radio telemetry).</td>
</tr>
<tr>
<td><strong>Automated License Plate Reading Technology</strong></td>
</tr>
<tr>
<td>Vehicles are equipped with cameras that are linked to computers to alert officers when vehicle is parked illegally (works when monitoring vehicle is moving).</td>
</tr>
</tbody>
</table>
3.1.3. Demand Management

Demand management strategies focus on influencing behavior of those traveling to the destination with the intent of balancing the number of vehicles at levels the supply can handle. The following section explains the potential management of parking demand through the use of pricing. This is followed by descriptions of series of revenue collection technologies that facilitate pricing and offer different improvements to customer benefits, enforcement, revenue collection, and availability for customers, employees, residents, and visitors.

Figure 26 Demand Management Strategies

<table>
<thead>
<tr>
<th>Demand Management</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand-responsive Pricing</td>
<td>Variable pricing in locations and/or times of day with differing demand, aiming to maintain a 85% (or other target) occupancy rate.</td>
</tr>
<tr>
<td>Multispace Pay and Display</td>
<td>One electronic meter serves multiple spaces; meter prints motorists a permit with date and end time to display on dashboard. Eliminates the need for on-street striping.</td>
</tr>
<tr>
<td>Multispace Pay by Space</td>
<td>One meter to serve multiple spaces; motorists enter parking stall number into the meter and pay for time. All spaces must have a number.</td>
</tr>
<tr>
<td>Pay with cellphone</td>
<td>Motorist parks in a space, dials the parking phone number listed on the meter or nearby sign and enters space number to pay for parking via credit card.</td>
</tr>
<tr>
<td>Smart Cards</td>
<td>Touch and go with a rechargeable card at a single space or multispace meter.</td>
</tr>
<tr>
<td>First Few Minutes Free Meter</td>
<td>Parking meters are equipped with a button that provides the driver with the first 10 to 15 minutes for free.</td>
</tr>
<tr>
<td>In-car meters</td>
<td>Motorists display paid time using their own palm-size device in their vehicle. Devices are purchased by the municipality and sold to the driver or provided by the vendor for a deposit, monthly fee, and share of revenue.</td>
</tr>
</tbody>
</table>
3.1.4. Zoning and Incentives

Zoning and Incentive Strategies generally use creative regulatory strategies to encourage more efficient use of existing resources. This may include mandates concerning how much parking can/must be provided or offering incentives to encourage particular travel behavior.

Figure 27  Zoning and Incentive Based Strategies

<table>
<thead>
<tr>
<th>Zoning &amp; Incentives</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Parking Benefit Districts</td>
<td>Issue limited number of permits to residents, allowing them to park within the district while all others pay hourly/daily/monthly permit allowing restricted parking during the week. Revenue is reinvested in public improvements for the neighborhood.</td>
</tr>
<tr>
<td>Parking Benefit District</td>
<td>Revenues from curbside parking meters fund shared, public parking garages, free transit passes for downtown employees, and/or district streetscape or public space improvements.</td>
</tr>
<tr>
<td>In-Lieu Fees</td>
<td>Fees paid by developers to a city in the place of building accessory parking. Fees help fund the construction of city-owned public parking and other transportation management objectives.</td>
</tr>
<tr>
<td>Parking Cash Outs or Universal Transit Passes</td>
<td>Employees are offered a cash equivalent if they will relinquish their parking space. &amp;/Or Employers acquire group discounted transit passes and offer employees free unlimited transit pass.</td>
</tr>
<tr>
<td>Unbundle Parking</td>
<td>Compels developers to sell or lease parking independently of residences or commercial leases.</td>
</tr>
<tr>
<td>Shared Parking</td>
<td>Encourages consolidation and reduction of a neighborhood's parking facilities.</td>
</tr>
<tr>
<td>Zoning/Parking Maximums</td>
<td>Elimination or reduction of parking minimum requirements in zoning. Establish parking maximum limits for future development.</td>
</tr>
</tbody>
</table>
3.2. Goals and Considerations

There are a number of key considerations for Nantucket to weigh when selecting a potential package of parking strategies. Each consideration listed in Figure 28 is directly related to typical parking system goals identified by communities throughout the United States. These considerations translate into both a framework for establishing Nantucket’s parking management program goals (Figure 29) as well as a method for objective measurement (Figure 30). The potential goal statements and the objective measurements are directly related to these considerations and each other. These considerations and resulting goals are statements that help to prioritize the intention of a new parking management program, in other words, ‘what do we want a parking management program to do for our community?’

Figure 28 Key Considerations

<table>
<thead>
<tr>
<th>Timing Considerations</th>
<th>Economic Considerations</th>
<th>Facilities Considerations</th>
<th>User Impact Considerations</th>
<th>Aesthetic Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeframe for Implementation</td>
<td>Capital Cost</td>
<td>Effect on Demand</td>
<td>Effect on Employee Parking Availability</td>
<td>Effect on Urban Design/ Streetspace</td>
</tr>
<tr>
<td>How long will it take to implement?</td>
<td>How much does it cost to implement?</td>
<td>What impact does this have on the number of vehicles in search of parking?</td>
<td>How does this impact the amount of parking available to local employees?</td>
<td>How will this change the appeal of the community’s public space?</td>
</tr>
<tr>
<td>Timeframe for Benefits</td>
<td>O&amp;M Cost</td>
<td>Effect on Supply</td>
<td>Effect on Residential Parking Availability</td>
<td></td>
</tr>
<tr>
<td>How long will it take to see positive results?</td>
<td>How high are the ongoing costs?</td>
<td>What impact does this have on the number of parking spaces?</td>
<td>How does this impact the amount of parking available to local residents?</td>
<td></td>
</tr>
<tr>
<td>Fiscal Impact</td>
<td></td>
<td></td>
<td>User Benefits/ Customer Convenience</td>
<td></td>
</tr>
<tr>
<td>What effect does it have on the municipal budget?</td>
<td></td>
<td></td>
<td>What does this provide to improve overall convenience of parking, especially for customers?</td>
<td></td>
</tr>
<tr>
<td>Staffing Needs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What effect does it have on staffing levels?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.3. Method of Evaluation

In order to evaluate the full spectrum of strategies, each strategy was brought through a two-step evaluation. The objective evaluations are broken down along typical high-to-low impact scales as can be seen in Figure 30. Using this rating scale, a simple scoring system was applied to the various considerations that were used to evaluate each strategy. A quick visual summary of the result of this exercise is shown in Figure 31. Scores were added up for each strategy, and strategies were ranked. Since all parking strategies are not created equal, certain strategies rank higher than others. However, the higher-ranking strategies may not be appropriate for Nantucket’s unique considerations. Therefore, the goals of the community needed to be incorporated. This was done by ranking the importance of each consideration and is more thoroughly described in Chapter 4.

Figure 30 Strategy Scoring Matrix

<table>
<thead>
<tr>
<th>SCORING</th>
<th>Timing Considerations</th>
<th>Economic Considerations</th>
<th>Facilities Considerations</th>
<th>User Impact Considerations</th>
<th>Aesthetic Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>(++++)</td>
<td>Timeframe for实施</td>
<td>Timeframe for益</td>
<td>资本成本 (每车位)</td>
<td>O&amp;M成本 (每车位)</td>
<td>财政影响</td>
</tr>
<tr>
<td>(+)</td>
<td>短期</td>
<td>周</td>
<td>费用</td>
<td>利润</td>
<td>利润减少</td>
</tr>
<tr>
<td>--------</td>
<td>-------------------</td>
<td>---------------------</td>
<td>---------------------</td>
<td>-------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>(-)</td>
<td>长期</td>
<td>年</td>
<td>费用</td>
<td>利润</td>
<td>利润减少</td>
</tr>
</tbody>
</table>

Detailed qualitative descriptions of each of the preceding strategies are included in Appendix A, with a simplified comparative summary table in Appendix B.

Figure 29 Parking Program Goal Statements

<table>
<thead>
<tr>
<th>Implement changes quickly</th>
<th>Reduce cars coming downtown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep start-up cost low</td>
<td>Better parking availability for employees</td>
</tr>
<tr>
<td>Keep on-going costs low</td>
<td>Better parking availability for residents</td>
</tr>
<tr>
<td>Bring in more Town revenue</td>
<td>Improve ease of finding parking</td>
</tr>
<tr>
<td>Minimize number of new staff</td>
<td>Preserve Nantucket’s character</td>
</tr>
</tbody>
</table>
(intentionally left blank)
Figure 31  Strategy Evaluation Summary Matrix

| SCORING                      | 1.1.1 | 1.1.2 | 1.1.3 | 1.1.4 | 1.1.5 | 1.2.1 | 1.2.2 | 1.2.3 | 1.3.1 | 1.3.2 | 1.3.3 | 1.3.4 | 1.3.5 | 1.3.6 | 1.3.7 | 1.4.1 | 1.4.2 | 1.4.3 | 1.4.4 | 1.4.5 | 1.4.6 | 1.4.7 |
|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Supply Enhancement          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Timeframe for Implementation |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Timeframe for Benefits      |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Economic Considerations     |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Capital Cost (per Space Served) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| O&M Cost (per Space Served)  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Fiscal Impact               |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Staffing Needs              |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Facilities Considerations   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Effect on Demand            |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Effect on Functional Supply |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| User Impact Considerations  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Effect on Employee          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Parking Availability        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Effect on Residential       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Parking Availability        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| User Benefits / Customer Convenience |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Aesthetic Considerations    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Effect on Urban Design / Streetscape |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

The matrix evaluates various strategies using a scoring system ranging from 'Significantly Better' to 'Negative'. Each row represents a different type of consideration (Supply Enhancement, Economic, Facilities, User Impact, Aesthetic), and each column represents a different strategy. The scores indicate the effectiveness or impact of each strategy under the respective consideration.
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Chapter 4. Parking Package ........................................ 43
  4.1. Package Selection.............................................. 43
  4.2. Community Involvement ........................................ 43
  4.3. Parking Packages................................................ 45
      4.3.1. Community Goals Parking Package .............. 45
      4.3.2. Public Preferred Parking Package ............... 45
      4.3.3. Hybrid Parking Package.............................. 46
  4.4. Development of Potential Parking Program ............ 47
      4.4.1. Overall Management Strategy...................... 48
  4.5. Example Parking Management Program ................. 49
      4.5.1. Market Rate Pricing................................... 49
      4.5.2. Eliminate Time-Limits................................. 50
      4.5.3. Parking Permit Program.............................. 51
      4.5.4. Revenue Collection Plan.............................. 52
      4.5.5. Parking Supply Management......................... 53
Chapter 4. Parking Package

The parking strategies described above are often applied independently. However, the most successful parking programs in the United States are comprised of a suite of strategies working together to manage supply and demand comprehensively. The following chapter describes how the strategies were evaluated by participants during several workshops conducted in June 2010. During these workshops, participants ranked each strategy’s applicability to Nantucket as well as voted on what they felt were their community’s priorities for solving downtown parking problems. Below, this community feedback has been combined with the information gleaned from the parking information reported in Chapter 2 to inform possible packages of parking strategies that may be suitable to downtown Nantucket’s unique needs.

4.1. Package Selection

As described in Chapter 3, the community was asked to rank the importance of each of the various parking management goals that were the basis for evaluating each strategy. The results of this ranking exercise were used to weight the importance of each of the goals, thus introducing community preference into the evaluation. This resulted in a different ordering of the strategies compared to the default evaluation. This list is called the Community Goals Parking Package and is reported below.

The community was also asked to vote for individual strategies after they were described in a brief presentation at each workshop. This resulted in a different ranking of the strategies. This list is called the Public Preferred Parking Package and is reported below.

The scoring resulting from these two ranking exercises were normalized and combined into a hybrid list representing a ranking of strategies that accounts for both the community’s goals as well as participants’ specific preferences. This is called the Hybrid Parking Package and is part of input that has influenced the development of the Example Parking Management Program in section 4.5.

4.2. Community Involvement

Four workshops and a public open house were conducted over a two-day period. The workshops were generally designed to be small, interactive group working sessions with no more than fifteen participants. The open house was limited only by space. These outreach efforts were held to help evaluate which strategies would be most appropriate for Nantucket. The various parking strategies in Chapter 3 were briefly described through a presentation. Participants were then asked to rank the importance of the parking management goals that were considered for each strategy. The workshops involved group discussions and concluded with individuals voting for their preferred strategies in the absence of any goals weighting.
Ranking of Goals

Each workshop and public open house participant was provided a worksheet to rank the importance of the parking management goals that were considered for each parking strategy. Participants were asked to rank each of the goal statements as one of the following:

- Not a consideration, not important
- Should be considered, not very important
- Should be considered, somewhat important
- Must be considered, highest importance

Community Priorities

All participants’ votes were averaged to provide the following ranking of importance. These rankings are used to evaluate which strategies would best serve the goals of the community.

1. Preserving Nantucket character
2. Reducing cars coming downtown
3. Increasing supply of parking
4. Improving ease of parking
5. Better availability for residents
6. Keep on-going costs low
7. Seeing a positive impact soon
8. Better availability for employees
9. Keep start-up cost low
10. Minimizing number of new staff
11. Implement changes quickly
12. Bringing in more Town revenue

Parking Strategy Ranking According to Community Goals

The results of the goal ranking exercise provided guidance for choosing suitable strategies. By ranking the goals, the community established the relative importance of each consideration used to compare the strategies in Chapter 3. Higher ranked goals received more weight in the strategy comparison, providing the Community Goals Parking Package below.

Voting on Parking Strategies

As the workshop discussions came to an end, participants were asked to vote for strategies they considered suitable for Nantucket and most beneficial for drivers. Each person was allowed 12 votes to be used in any way they wished, for instance 1 vote for 12 different strategies or 12 votes for 1 strategy. The results of this exercise provide the Public Preferred Parking Package below.
4.3. Parking Packages

4.3.1. Community Goals Parking Package

The following lists the strategies weighted by the preferred goals of the workshop participants:

1. Automated License Plate Reading Technology
2. In-Car meters
3. Handheld Units
4. Shared Parking
5. Demand-responsive Pricing
6. Residential Parking Benefit Districts
7. Remote Parking
8. Parking Cash Outs or Universal Transit Passes
9. Multi-space Pay and Display
10. Reverse Angle Parking
11. Parking Benefit District
12. Pay with cellphone
13. Unbundle parking
14. Multi-space Pay by Space
15. Real-time Space Availability Displays
16. Curbside Sensors
17. Pay before you exit
18. Tandem and stackers
19. In-Lieu Fees
20. Valet
21. Zoning/Parking Maximums
22. Smart Cards
23. First Few Minutes Free Meter

4.3.2. Public Preferred Parking Package

The results of direct voting for strategies in each workshop are below – ranked from most preferred to least preferred:

1. Remote Parking
2. Parking Cash Outs or Universal Transit Passes
3. Valet
4. Handheld Units
5. Demand-Responsive Pricing
6. Multi-space Pay and Display
7. In-Lieu Fees
8. Parking Benefit District
9. Zoning/Parking Maximums
10. Automated License Plate Reading Technology
11. Curbside Sensors
12. Reverse Angle Parking
13. In-Car Meters
14. Pay with Cell Phone
15. Residential Parking Benefit District
16. First Few Minutes Free Meter
17. Shared Parking
18. Pay before you exit

19. Unbundle parking
20. Smart Cards
21. Real-time Space Availability Displays
22. Tandem and stackers
23. Multi-space Pay by Space

4.3.3. Hybrid Parking Package

This package is derived from combining the public preference and community goals packages, resulting in the following list:

1. Remote Parking
2. Parking Cash Outs or Universal Transit Passes
3. Handheld Units
4. Demand-responsive Pricing
5. Automated License Plate Reading Technology
6. Multispace Pay and Display
7. In-Car meters
8. Valet
9. Parking Benefit District
10. In-Lieu Fees
11. Shared Parking
12. Residential Parking Benefit Districts

13. Reverse Angle Parking
14. Curbside Sensors
15. Pay with cellphone
16. Zoning/Parking Maximums
17. Unbundle parking
18. Pay before you exit
19. Real-time Space Availability Displays
20. Multispace Pay by Space
21. Tandem and stackers
22. Smart Cards
23. First Few Minutes Free Meter
4.4. Development of Potential Parking Program

Downtown Nantucket is a unique setting with unusual parking patterns and a strong sense of community. The following sample parking management package was compiled to serve the needs of Nantucket while adhering to the goals of the community. A detailed implementation plan would require further development. However, the following describes how these strategies could be combined and applied to Nantucket’s needs.

This is a suite of strategies that are woven based according to the needs and goals set forth in this document. This potential package is provided here to demonstrate a potential program derived from the packages above as an example of how – given more preparation – Nantucket could assemble its future parking program. An actual implementation plan would need to further develop specific zone delineation, fee structures, periods of operation, vendor selection, etc.
4.4.1. Overall Management Strategy

Nantucket needs to establish an overall parking management strategy in order to guide its decision making. There are many factors Nantucket may choose to consider when answering the question: “What do we want our parking program to do?” This example management strategy is based on the parking study findings and the community’s goals as established during the project workshops.

Above all other considerations, the community desires to maintain the historic character of Nantucket’s downtown. Nantucket’s economy is heavily reliant on seasonal tourism, and the historic downtown is a large part of what draws in visitors and tourist spending. As one of the island’s key attractions, Nantucket must maintain the character of its downtown.

The downtown is dense, with narrow streets and limited parking, but during the high season, everyone wants to drive downtown for dinner. This results in more cars downtown than spaces. The community has determined that controlling the number of vehicles in downtown is a major issue. The parking program must reduce the demand or need for driving to downtown.

The limited space in the downtown has seen parking added in locations that are inappropriate to park (i.e., sidewalks). There is not enough parking to handle the demand so the parking supply must be enhanced to better serve the periods of peak demand.

Vacationers traveling downtown want convenient access to the shops and restaurants downtown. Success of Nantucket’s downtown businesses will be enhanced if the convenience of traveling downtown is improved. As a result, the convenience of using the downtown parking system is important to consider.

The extreme parking conditions addressed in this report only occur in the busy season. The rest of the year, residents experience a much less intense environment. However, during the high season, downtown residents experience a great deal of pressure from spillover parking. Employees and visitors park on residential streets leaving limited to no space for residents. Ensuring there is ample parking available to residents during the high season should be considered as well.

Example Primary Parking Management Goals

- Improve the attractiveness of public space
- Encourage efficient use of existing parking
- Provide convenient parking for customers
- Improve ease of access for visitors
- Protect residential neighborhoods from spillover
4.5. Example Parking Management Program

The following parking management program is only one possible outcome of the evaluations conducted as part of this study. While a final plan would need broader approval by the Town, this process has suggested an approach similar to what is described at a summary level below.

4.5.1. Market Rate Pricing

**Purpose**
- Encourage efficient use of existing parking
- Increase parking availability for customers
- Maintain consistent availability in the most desirable locations
- Shift long-term parking away from most desirable locations
- Distribute parking more evenly throughout the day and across the downtown
- Visitors balance their willingness to pay & desire for convenience

**Program**
- Price most desirable locations the highest
- Maintain 85% occupancy by pricing according to demand
- Institute an incremental fee structure with increasing cost over time
- Create a series of length-of-stay pricing zones
- Periodically re-evaluate demand, adjust prices, hours, & zones
- Use excess revenue for public improvements, a remote parking shuttle, etc.

An 85% occupancy rate is a widely-accepted industry standard for optimal on-street parking occupancies and 90% for off-street parking facilities. These are target rates for preventing the additional and unnecessary traffic circling for a space while still making good use of the parking supply and attracting customers.
4.5.2. Eliminate Time-Limits

**Purpose**
- Improve convenience for customers
- Remove artificial restriction on usage
- Allow visitors to park as long as needed
- Reduce traffic by eliminating the "Nantucket Roll"
- Eliminate ticket anxiety
- Reduce enforcement costs

**Program**
- Eliminate all time-limit regulations
- Remove signage & reduce visual clutter
- Allow pricing to manage availability
4.5.3. Parking Permit Program

**Purpose**
- Protect residential neighborhoods from spillover parking
- Ensure availability for residents & downtown guests

**Program**
- Continue residential parking permit program
- Provide limited number of residential permits
- Provide limited number of guest parking placards
- Increase price to limit unnecessary long-term storage
- Price each season according to demand
- Use automated license plate readers to actively enforce permit program adherence
- Allow residents to park in the outer area with year-round discounts/benefits in the core
- Allow guest house visitors to park in the outer area but pay standard rates in the core

Automated license plate reader
4.5.4. Revenue Collection Plan

**Purpose**
- Streamline enforcement
- Improve convenience for customers
- Improve efficiency of revenue collection system

**Program**
- Introduce parking kiosks (multi-space meters) in the core
- Require visitors to pay by their license plate, eliminating the need for space markings or paper receipts
- Allow visitors to pay by cellphone
- Provide in-car meters for residents & employees
- Monitor enforcement in core and outer areas through automated license plate readers

![Parking kiosks](image1)
![Pay by cell phone](image2)
![In-car meters](image3)
4.5.5. Parking Supply Management

**Purpose**

- Increase parking supply, especially to meet need during high demand situations
- Reduce requirements for future parking expansion downtown

**Program**

- Use remote parking lots or a new garage for employee parking & overflow situations
- Encourage businesses to offer valet services using remote parking lots or a new parking garage
- Institute in-lieu of parking fees rather than waiving downtown minimum parking requirements
- Create a parking benefit district to direct distribution of excess parking revenue
- Use excess parking revenue to operate a free shuttle
- Use excess parking revenue & in-lieu fees to fund any needed expansion of remote parking or a new garage
- Offer free transit passes to everyone that will give up parking downtown
(intentionally left blank)
# Table of Contents

1.1. Supply Enhancement .............................................. 1
1.1.1. Reverse Angle Parking ............................................ 2
1.1.2. Real-Time Space Availability Displays ....................... 4
1.1.3. Remote Parking ..................................................... 6
1.1.4. Valet Parking ....................................................... 8
1.1.5. Tandems and Stackers ............................................. 10
1.2. Improved Enforcement ........................................... 12
1.2.1. Handheld Units ..................................................... 14
1.2.2. Curbside Sensors .................................................. 16
1.2.3. Automatic License Plate Readers ............................... 18
1.3. Demand Management .............................................. 21
1.3.1. Demand Responsive Pricing ..................................... 22
1.3.2. Multi-Space Meters ................................................. 24
1.3.3. Pay by Cellphone .................................................. 30
1.3.4. Smart Cards ......................................................... 32
1.3.5. First Few Minutes Free ......................................... 34
1.3.6. In-Car Meters ....................................................... 36
1.4. Zoning and Incentives .............................................. 39
1.4.1. Residential Parking Benefit District ........................... 40
1.4.2. Parking Benefit Coordination District ......................... 42
1.4.3. In-Lieu Fees ........................................................ 44
1.4.4. Parking Cash Out & Universal Transit Passes ............... 46
1.4.5. Unbundled Parking ................................................ 48
1.4.6. Shared Parking ..................................................... 50
1.4.7. Parking Maximums ................................................. 52

## Table of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>Reverse Angle Parking ..................</td>
<td>2</td>
</tr>
<tr>
<td>26</td>
<td>Reverse Angle Parking Evaluation ......</td>
<td>3</td>
</tr>
<tr>
<td>27</td>
<td>Real-Time Space Availability Displays</td>
<td>4</td>
</tr>
<tr>
<td>28</td>
<td>Real-Time Availability Display Evaluation</td>
<td>5</td>
</tr>
<tr>
<td>29</td>
<td>Remote Parking ..........................</td>
<td>6</td>
</tr>
<tr>
<td>30</td>
<td>Remote Parking Evaluation .............</td>
<td>7</td>
</tr>
<tr>
<td>31</td>
<td>Valet Parking ...........................</td>
<td>8</td>
</tr>
<tr>
<td>32</td>
<td>Valet Parking Evaluation ..............</td>
<td>9</td>
</tr>
<tr>
<td>33</td>
<td>Tandem &amp; Stackers ........................</td>
<td>10</td>
</tr>
<tr>
<td>34</td>
<td>Tandem &amp; Stackers Evaluation ..........</td>
<td>11</td>
</tr>
<tr>
<td>35</td>
<td>Handheld Ticketing Unit ................</td>
<td>14</td>
</tr>
<tr>
<td>36</td>
<td>Handheld Ticketing Unit Evaluation ....</td>
<td>15</td>
</tr>
<tr>
<td>37</td>
<td>Curbside Sensors ........................</td>
<td>16</td>
</tr>
<tr>
<td>38</td>
<td>Curbside Sensors Evaluation ..........</td>
<td>17</td>
</tr>
<tr>
<td>39</td>
<td>Automated License Plate Reader ........</td>
<td>18</td>
</tr>
<tr>
<td>40</td>
<td>Automatic License Plate Readers Evaluation</td>
<td>19</td>
</tr>
<tr>
<td>41</td>
<td>Demand Responsive Pricing .............</td>
<td>22</td>
</tr>
<tr>
<td>42</td>
<td>Demand Responsive Pricing Evaluation</td>
<td>23</td>
</tr>
<tr>
<td>43</td>
<td>Multi-Space Pay &amp; Display .............</td>
<td>26</td>
</tr>
<tr>
<td>44</td>
<td>Pay-and-Display Evaluation ............</td>
<td>27</td>
</tr>
<tr>
<td>45</td>
<td>Multi-Space Pay-by-Space ..............</td>
<td>28</td>
</tr>
<tr>
<td>46</td>
<td>Pay-by-Space Evaluation ................</td>
<td>29</td>
</tr>
<tr>
<td>47</td>
<td>Pay by Cellphone ........................</td>
<td>30</td>
</tr>
<tr>
<td>48</td>
<td>Pay by Cellphone Evaluation ..........</td>
<td>31</td>
</tr>
<tr>
<td>49</td>
<td>Smart Cards ................................</td>
<td>32</td>
</tr>
<tr>
<td>50</td>
<td>Smart Card Evaluation ..................</td>
<td>33</td>
</tr>
<tr>
<td>51</td>
<td>First Few Minutes Free ..................</td>
<td>34</td>
</tr>
<tr>
<td>Figure</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>52</td>
<td>First Few Minutes Free Evaluation</td>
<td>35</td>
</tr>
<tr>
<td>53</td>
<td>In-Car Meters</td>
<td>36</td>
</tr>
<tr>
<td>54</td>
<td>In-Car Meter Evaluation</td>
<td>37</td>
</tr>
<tr>
<td>55</td>
<td>Residential Parking Benefit District</td>
<td>40</td>
</tr>
<tr>
<td>56</td>
<td>Residential Parking Benefit District Evaluation</td>
<td>41</td>
</tr>
<tr>
<td>57</td>
<td>Parking Benefit Coordination District</td>
<td>42</td>
</tr>
<tr>
<td>58</td>
<td>Parking Benefit District Evaluation</td>
<td>43</td>
</tr>
<tr>
<td>59</td>
<td>In-Lieu Fee</td>
<td>44</td>
</tr>
<tr>
<td>60</td>
<td>In-Lieu Fees Evaluation</td>
<td>45</td>
</tr>
<tr>
<td>61</td>
<td>Parking Cash Out &amp; Universal Transit Passes</td>
<td>46</td>
</tr>
<tr>
<td>62</td>
<td>Parking Cash Out &amp; Universal Transit Passes Evaluation</td>
<td>47</td>
</tr>
<tr>
<td>63</td>
<td>Unbundled Parking</td>
<td>48</td>
</tr>
<tr>
<td>64</td>
<td>Unbundled Parking Evaluation</td>
<td>49</td>
</tr>
<tr>
<td>65</td>
<td>Shared Parking</td>
<td>50</td>
</tr>
<tr>
<td>66</td>
<td>Shared Parking Evaluation</td>
<td>51</td>
</tr>
<tr>
<td>67</td>
<td>Parking Maximums</td>
<td>52</td>
</tr>
<tr>
<td>68</td>
<td>Parking Maximums Evaluation</td>
<td>53</td>
</tr>
</tbody>
</table>
1.1. Supply Enhancement

Traditionally, a municipality faced with demand for parking that is apparently in excess of supply might initially attempt to increase capacity by building more parking facilities. While the construction of new facilities will certainly improve the overall ratio of occupied spaces to vacant spaces, without appropriate parking management measures, demand for prime front-door spaces will remain – leaving places like Main Street in Nantucket over-utilized as they are today. Nonetheless, increases in Nantucket’s supply fit within a larger parking program for downtown and are of interest to many within the community. The examples of supply enhancement techniques described below include reverse-angle parking, remote parking, tandem parking or stackers – which expand supply – and real-time availability displays – which improve drivers’ knowledge of available parking spaces. These strategies enhance the existing supply through one or more of the following methods:

- Marginally increasing the capacity of existing facilities.
- Improving availability information presented to the driver.
- Making more efficient use of existing facilities with excess capacity.

In this Section:

1.1. Supply Enhancement .............................................. 1
   1.1.1. Reverse Angle Parking........................................... 2
   1.1.2. Real-Time Space Availability Displays .................... 4
   1.1.3. Remote Parking.................................................. 6
   1.1.4. Valet Parking..................................................... 8
   1.1.5. Tandems and Stackers ........................................... 10
1.1.1. Reverse Angle Parking

Reverse angle parking, or “back-in, head-out” angle parking is a parking organization strategy that increases parking supply and improves safety for drivers, cyclists, and pedestrians. This type of parking is similar to parallel and standard angle parking, as the driver backs into the stall, but when leaving, the driver can simply pull out of the stall. The driver has a better view of oncoming traffic, and both cyclists and drivers can see each other. For example, the Tucson-Pima County Bicycle Advisory Committee reports that after implementing the reverse angle parking scheme in Tucson, the area "went from an average of 3-4 bike/car accidents per month to no reported accidents for 4 years following implementation". The City of Wilmington, Delaware requires all angled parking to be reverse angle parking due to the safety factor. Reverse angle parking also allows people to enter and exit cars out of the flow of traffic (unlike parallel parking), and makes it easy to access the trunk of a car. Finally, painting stalls to accommodate reverse angle parking can increase the number of cars that can park on each block, potentially up to twice the number accommodated by parallel parking.

Figure 1  Reverse Angle Parking

Case Study City  Pottstown, PA

In 2003, the borough of Pottstown, PA, implemented a set of reverse angle parking spaces on High Street, the main street in its CBD. Lack of parking close to retail was seen as a deterrent to development and investment. To address this, angled parking (which increases overall capacity) was considered. However, the very wide right-of-way required by state law for traditional head-in angled parking would have been prohibitive. The wide right-of-way is required to provide buffer space between the parking vehicle and the travel lane to protect against the danger of backing out blind from a conventional back-out angled space. This is not an issue with head-out spaces because the driver has a better view of oncoming traffic, and both cyclists and drivers can see each other so the required right-of-way was reduced for reverse angle parking. Some blocks gained as many as 23 spaces; overall, the downtown area gained a net 95 new spaces, a 21% increase. Additionally, to bridge the very wide existing pedestrian crossings, reverse angle parking was paired with curb extensions, reducing the distance and time pedestrians would be exposed to the roadway.

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<td>Wilmington, DE</td>
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### Figure 2  Reverse Angle Parking Evaluation

#### Timing Considerations

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<tr>
<td><strong>Timeframe for Implementation</strong></td>
<td>Medium</td>
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<td><strong>Timeframe for Impacts</strong></td>
<td>Weeks</td>
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#### Economic Considerations

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<tr>
<td><strong>Capital Cost</strong></td>
<td>Generally the same as developing conventional angled parking; may be an additional cost for explanatory signage.</td>
</tr>
<tr>
<td><strong>O&amp;M Cost</strong></td>
<td>Same as conventional angled parking.</td>
</tr>
<tr>
<td><strong>Fiscal Impact</strong></td>
<td>Compared with parallel parking, increases revenue by increasing supply of spaces. No net effect over conventional angled parking.</td>
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##### Staffing Needs

Same as standard parking.

#### Facilities Considerations

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<table>
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<td><strong>Effect on Demand</strong></td>
<td>No direct &amp; independent effect.</td>
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<tr>
<td><strong>Effect on Supply</strong></td>
<td>Increase by 20-70% over parallel parking depending on angle (45, 60 or 90 degree)</td>
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#### User Impact Considerations

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<th></th>
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<td><strong>Effect on Employee Parking Availability</strong></td>
<td>No direct &amp; independent effect.</td>
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<tr>
<td><strong>Effect on Residential Parking Availability</strong></td>
<td>No direct &amp; independent effect.</td>
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<tr>
<td><strong>User Benefits/Customer Convenience</strong></td>
<td>Greater supply of curb front parking spaces. Marked improvement in safety on roadway for both drivers and cyclists.</td>
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#### Aesthetic Considerations

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</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Urban Design/Streetscape</strong></td>
<td>Creates a wider buffer between traffic and the sidewalk when compared to traditional parallel parking.</td>
</tr>
</tbody>
</table>
1.1.2. Real-Time Space Availability Displays

Real-time space availability displays are digital wayfinding signs that direct drivers to available capacity at nearby parking facilities. Using data from sensors in the parking facilities, these signs allow drivers to proceed directly to locations that have parking available; this reduces the amount of “hunting” required to find a space. Once at the desired parking facility, motorists may be further aided in finding an open space by colored lights positioned over each space which indicate whether the space is free. This is particularly helpful in parking lots with multiple aisles, as drivers can quickly locate a free spot without having to drive up each aisle.

Case Study City  Rockville, MD

The City of Rockville owns and operates three public parking garages within its downtown, known as the Rockville Town Center, with a combined inventory of 973 public spaces. In the Town Center, there are also 11 private garages and lots that offer parking at varying rates. To help area patrons find a parking space, the City has instituted an enhanced parking availability information system. All three City facilities provide real-time space availability displays to indicate the number available spaces. Once inside the parking garage, drivers are directed to vacant spaces by following digital green arrows signs at end of lanes indication where available parking is located. To further streamline the search for parking, each individual parking stall has a ceiling-mounted light, red or green, indicating availability at a glance.

Best Practices

- Santa Monica, CA
- Natick Commons Mall, MA
- Rockville Town Center, MD
- St. Paul, MN
### Figure 4  
**Real-Time Availability Display Evaluation**

<table>
<thead>
<tr>
<th><strong>Timing Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeframe for Implementation</td>
<td>Medium</td>
</tr>
<tr>
<td>Timeframe for Impacts</td>
<td>Weeks</td>
</tr>
<tr>
<td><strong>Economic Considerations</strong></td>
<td></td>
</tr>
<tr>
<td>Capital Cost</td>
<td>$25,000 - $50,000 per unit.</td>
</tr>
<tr>
<td>O&amp;M Cost</td>
<td>$500 annual operating cost per unit.</td>
</tr>
<tr>
<td>Fiscal Impact</td>
<td>Increases revenue by increasing utilization of paid off-street parking.</td>
</tr>
<tr>
<td>Staffing Needs</td>
<td>Maintenance staff will need to be trained on the maintenance of new equipment.</td>
</tr>
<tr>
<td><strong>Facilities Considerations</strong></td>
<td></td>
</tr>
<tr>
<td>Effect on Demand</td>
<td>Reduction of demand by 5-15%.</td>
</tr>
<tr>
<td>Effect on Supply</td>
<td>No direct &amp; independent effect.</td>
</tr>
<tr>
<td><strong>User Impact Considerations</strong></td>
<td></td>
</tr>
<tr>
<td>Effect on Employee Parking Availability</td>
<td>Live parking availability information improves functional availability. Reduces the need to cruise for parking, helping employees find parking in time for their shift.</td>
</tr>
<tr>
<td>Effect on Residential Parking Availability</td>
<td>Reduces pressure on parking in residential areas neighboring the downtown core.</td>
</tr>
<tr>
<td>User Benefits/Customer Convenience</td>
<td>Directs flow from full lots. Aids motorists unfamiliar with area. Maximizes parking efficiency. Can make up-to-date information available on the Web or mobile phones.</td>
</tr>
<tr>
<td><strong>Aesthetic Considerations</strong></td>
<td></td>
</tr>
<tr>
<td>Effect on Urban Design/Streetscape</td>
<td>Modern electronic signage can be designed to fit into urban design scheme.</td>
</tr>
</tbody>
</table>
1.1.3. Remote Parking

Remote parking is offering additional parking off-site, a common solution to a lack of parking and space at a major destination. Remote parking facilities are commonly connected to the primary destination by shuttle buses, though this strategy may also be employed using the valet parking principle described below. Generally speaking, motorists prefer to park near their destination as opposed to taking a shuttle from a remote location, but in high parking demand locations this has been a very effective way of handling overflow at times of extreme demand. In an effort to reduce the inconvenience of remote parking shuttles are commonly free, funded through money collected from priced parking in the destination. If available remote parking is not available, construction of remote parking facilities may be funded using money collected from priced parking or in-lieu fees.

**Figure 5 Remote Parking**

**Case Study City**  Boston, MA

Five major Longwood Medical Area (LMA) hospitals and the Harvard University Medical School jointly formed the Medical Academic and Scientific Community Organization Inc. (MASCO) to provide joint support and planning services – chief among them was bus service to remote parking lots for employees and faculty. It operates over 2,700 remote spaces serving 22 member institutions in the LMA, comprising over 37,000 employees and 13,000 students. MASCO operates 29 buses on 8 routes with a $5.3M annual budget that is financed by $325 per space per month member fees to park in its lots and institutional contributions for the commuter shuttles based on their percentage of ridership. Members fully recognize the value of the shuttle services and continue to approve annual parking rate increases of approximately $25 per year. MASCO now also offers a full suite of Transportation Demand Management (TDM) services, including “T” pass subsidy programs and ridesharing. Over the years, other academic institutions have become a part of MASCO and benefit from its transit station commuter shuttles and TDM programs, including Emmanuel College, Massachusetts College of Art, Massachusetts College of Pharmacy and Health Sciences, Simmons College, Wentworth Institute of Technology, Wheelock College, and the Windsor School.

<table>
<thead>
<tr>
<th>Best Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>● Chattanooga, TN</td>
</tr>
<tr>
<td>● Airports around the country</td>
</tr>
<tr>
<td>● Universities, hospitals, and large companies</td>
</tr>
</tbody>
</table>
### Figure 6  Remote Parking Evaluation

<table>
<thead>
<tr>
<th>Timing Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Timeframe for Implementation</strong></td>
<td>Short</td>
</tr>
<tr>
<td><strong>Timeframe for Impacts</strong></td>
<td>Months</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capital Cost</strong></td>
<td>Average $5,000 per space if surface lots are constructed.</td>
</tr>
<tr>
<td><strong>O&amp;M Cost</strong></td>
<td>Maintenance of parking facilities. Potentially shuttle service operating costs.</td>
</tr>
<tr>
<td><strong>Fiscal Impact</strong></td>
<td>Depends on program, potentially a cost savings by reducing need to construct expensive central public parking, charging for remote parking may cover shuttle costs.</td>
</tr>
<tr>
<td><strong>Staffing Needs</strong></td>
<td>Shuttle drivers and lot operators needed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Demand</strong></td>
<td>Reduces parking demand in constrained locations.</td>
</tr>
<tr>
<td><strong>Effect on Supply</strong></td>
<td>Increases supply of available parking in less central locations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>User Impact Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Employee Parking Availability</strong></td>
<td>Improves availability for employees willing to &quot;park and ride&quot;.</td>
</tr>
<tr>
<td><strong>Effect on Residential Parking Availability</strong></td>
<td>Reduces pressure on parking in residential areas neighboring the downtown core.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aesthetic Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Urban Design/Streetscape</strong></td>
<td>Keep large surface parking lots or garages out of downtown leading to more consistent urban fabric.</td>
</tr>
</tbody>
</table>
1.1.4. Valet Parking

Valet parking allows drivers to go directly to their destination and have an attendant park the car. The attendants bring the drivers’ vehicles to less convenient locations -such as remote parking facilities or spaces the establishment leases nearby- and retrieve the vehicle for the departing customers. Valet parking is a very common strategy for addressing parking supply limitations, and is employed by many individual businesses, particularly restaurants and clubs.

Figure 7 Valet Parking

Case Study City Cambridge, MA

For over a decade, Cambridge Massachusetts had only two valet parking stands that were established through public processes for two high-end restaurants. By 2000, latent demand for additional valets had forced the City to develop a more streamlined process. Rather than going through public meetings to establish new curb regulations, the Department of Traffic, Parking and Transportation instead chose to create a new valet licensing requirement that required sign-off by all concerned City Departments. Key to the success of the license were several important pieces of information that were easily reviewed for compliance by City staff during normal operations: a mapped and timed valet driving route; a mapped and timed attendant walking route; field-tested drop-off and pick-up cycle times to ensure quick turnaround given the proposed staffing level; a signed agreement with the off-street parking owner; full insurance documentation; and a clear valet zone with identified ADA route from street to door. Most importantly, the license was not owned by the valet but by the restaurant. If any issues or complaints arose, the responsible party was the restaurant owner. This forced the valet to ensure no violations existed so that they would keep their client. Today, nearly a dozen separate valets operate in Cambridge with zero complaints.

Best Practices

- Cambridge, MA
- Palo Alto, CA
- Emeryville, CA
- etaluma, CA
- Chapel Hill, NC
- Apartment buildings - Summit Roosevelt, Washington, DC
- Hotels - Embassy Suites D’Orsay Hotel, Long Beach, CA
- Restaurants
### Figure 8 Valet Parking Evaluation

#### Timing Considerations
- **Timeframe for Implementation**: Short
- **Timeframe for Impacts**: Weeks

#### Economic Considerations
- **Capital Cost**: Virtually no capital costs
- **O&M Cost**: Typical costs range from $300 to $600 annually per space
- **Fiscal Impact**: Typically no impact on municipal budgets
- **Staffing Needs**: Requires attendants to park and retrieve vehicles

#### Facilities Considerations
- **Effect on Demand**: Increases demand as visitors can be confident the attendants will take care of finding parking.
- **Effect on Supply**: Increases curb side supply by having someone bring it to a remote parking facility for you. Potential to increase capacity by 20% to 40% compared to parking their own vehicles

#### User Impact Considerations
- **Effect on Employee Parking Availability**: No direct and independent impact
- **Effect on Residential Parking Availability**: Sometimes implemented for apartment buildings thus improving availability for residents. Typically no independent effect residential parking availability.
- **User Benefits/Customer Convenience**: Attendants handle all parking concerns. Customers virtually park at their destination

#### Aesthetic Considerations
- **Effect on Urban Design/Streetscape**: No significant impact on the streetscape
- **Effect on Urban Design/Streetscape**: Reduces circling vehicles
1.1.5. Tandems and Stackers

Tandem parking is a technique and stackers are equipment that allow more cars to be parked on a smaller surface area, by reducing the amount of space devoted to aisles per car parked. Generally applied in garages or parking lots, both techniques require an attendant to be on duty to move cars if a blocked-in car owner wishes to leave. These work well with valet systems and remote parking.

_Tandem parking_ involves parking two or more cars nose to tail, preventing all but the outermost car from leaving the parking facility independently; however, this allows more cars to fit into the lot by reducing the number of aisles required.

_Stackers_ perform a similar function, but add vertical capacity; essentially, a hydraulic lifting apparatus raises the first car up, allowing a second car to be parked underneath. However the bottom car must be moved before the stacker can be lowered and the upper car released.

**Figure 9 Tandem & Stackers**

**Case Study City** Stowe, VT

The Stowe Mountain Lodge in Stowe, VT, is an upscale ski resort that has been utilizing tandem parking in its valet operations since the hotel opened in 2008. Tandem parking involves two cars being parked nose-to-tail, in which the first vehicle does not have independent access, and the second vehicle must move to provide access. Like regular parking, valet parking at the Lodge is offered free of charge to all guests. The valet parking facilities are located in a garage below the hotel, which was specifically designed to accommodate tandem parking. The spaces can accommodate SUVs in addition to average-sized cars. During holiday weeks in winter or when the hotel hosts large conferences, peak capacity is reached for tandem spaces. The efficient utilization of space through tandem parking is one of the many eco-friendly characteristic of this environmentally-conscious resort. Tandem parking requires a very short timeframe for implementation but it does require an attendant to be available to move the cars.

<table>
<thead>
<tr>
<th>Best Practices</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New York City, NY</td>
<td>Chicago, IL</td>
</tr>
<tr>
<td>Hoboken, NJ</td>
<td>Los Angeles, CA</td>
</tr>
<tr>
<td>St. Louis, MO</td>
<td>Stowe, VT (Stowe Mtn. Lodge)</td>
</tr>
</tbody>
</table>
### Figure 10  Tandem & Stackers Evaluation

<table>
<thead>
<tr>
<th><strong>Timing Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Timeframe for Implementation</strong></td>
<td>Short</td>
</tr>
<tr>
<td><strong>Timeframe for Impacts</strong></td>
<td>Weeks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Economic Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capital Cost</strong></td>
<td>Tandem has no capital cost. Stackers cost about $4,000 to $9,000 each.</td>
</tr>
<tr>
<td><strong>O&amp;M Cost</strong></td>
<td>Tandem has standard maintenance costs associated with pavement. Stackers have additional equipment maintenance cost.</td>
</tr>
<tr>
<td><strong>Fiscal Impact</strong></td>
<td>Both tandem &amp; stackers increase parking supply and parking revenue increases accordingly.</td>
</tr>
<tr>
<td><strong>Staffing Needs</strong></td>
<td>Labor always needed for operations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Facilities Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Demand</strong></td>
<td>5-15% reduction in demand</td>
</tr>
<tr>
<td><strong>Effect on Supply</strong></td>
<td>Increases overall supply. At least double the supply, potentially more.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>User Impact Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Employee Parking Availability</strong></td>
<td>Increases overall supply. Tandem &amp; stackers at least double the supply, stackers potentially more. Effective for office employee parking and for employees with matching shifts.</td>
</tr>
<tr>
<td><strong>Effect on Residential Parking Availability</strong></td>
<td>Increases overall supply. At least double the supply, potentially more. Effective with multi-family housing.</td>
</tr>
<tr>
<td><strong>User Benefits/Customer Convenience</strong></td>
<td>Additional parking. Attendants locate parking &amp; retrieve vehicle.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Aesthetic Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Urban Design/Streetscape</strong></td>
<td>Tandem has minimal impact. Stackers in an outdoor setting have a negative impact.</td>
</tr>
</tbody>
</table>
1.2. Improved Enforcement

Most parking management systems rely heavily on enforcement to ensure that the desired policy goals of the regulations are met. However, every regulation and parking strategy can be undercut by those who attempt to "game the system", reducing the efficacy of parking policy. Improved enforcement can be very helpful in reaching the parking goals set by the regulatory framework. This consists of technologies that simplify or streamline the enforcement procedures in some way, either tools that enhance the enforcement officer’s ability or automating monitoring procedures. This section includes descriptions of handheld ticket units, curbside sensors, and automated license plate readers.

In this section:

1.2. Improved Enforcement...............................12
1.2.1. Handheld Units..............................................14
1.2.2. Curbside Sensors.........................................16
1.2.3. Automatic License Plate Readers.................18
1.2.1. Handheld Units

*Handheld ticketing units* are small, computerized devices that aid parking enforcement officers in issuing accurate and legible citations. Units can improve recordkeeping and reduce errors by directly communicating with central records; account for more complicated regulatory structures such as fines that escalate with each additional violation; and print the citations which improves legibility over handwritten notices.

**Case Study City**  Provincetown, MA

Provincetown, MA has utilized handheld computer technology to enforce parking regulations and issue tickets for the past eight years. The handheld system accommodates the different parking permit privileges for year-round residents, property owners, and full summer residents, as well as the varying permitted parking times for meters. After incorporating handheld technology into their enforcement practices, Provincetown now issues 12,000 citations a year using this system with only one to two enforcement officers on the street.

**Best Practices**
- White Rock, BC
- Provincetown, MA
### Figure 12  Handheld Ticketing Unit Evaluation

<table>
<thead>
<tr>
<th>Timing Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeframe for Implementation</td>
<td>Short</td>
</tr>
<tr>
<td>Timeframe for Impacts</td>
<td>Weeks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Cost</td>
<td>$10k to $13k per unit (includes associated software costs, staff training, etc)</td>
</tr>
<tr>
<td>O&amp;M Cost</td>
<td>Maintenance of units is minimal. Operating costs for enforcement are reduced.</td>
</tr>
<tr>
<td>Fiscal Impact</td>
<td>Improved revenue due to more efficient enforcement.</td>
</tr>
<tr>
<td>Staffing Needs</td>
<td>Can reduce the need for enforcement staff while simultaneously increasing revenues.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on Demand</td>
<td>No direct &amp; independent effect.</td>
</tr>
<tr>
<td>Effect on Supply</td>
<td>No direct &amp; independent effect.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>User Impact Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on Employee Parking Availability</td>
<td>Improved enforcement can reduce violations, thus increasing availability in some areas.</td>
</tr>
<tr>
<td>Effect on Residential Parking Availability</td>
<td>Improved enforcement can reduce violations, thus increasing availability in some areas.</td>
</tr>
<tr>
<td>User Benefits/Customer Convenience</td>
<td>Reduced error rate in transcribing tickets. Faster response to public inquiries. Improved ticket payment and compliance with regulations (fewer repeat offenders). Improved legibility of parking violation notices.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aesthetic Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on Urban Design/Streetscape</td>
<td>No direct &amp; independent effect.</td>
</tr>
</tbody>
</table>
1.2.2. Curbside Sensors

Curbside sensors are embedded in the pavement and linked with advanced parking meters (single-head or multispace) enabling the parking system to determine when a car is actively occupying a space. This allows several advantages over regular meters in terms of revenue generation and improved enforcement. Because the meter is able to determine when a car leaves, it is able to reset the paid time on the meter to zero even if the previous occupant had paid time remaining, thus increasing revenues. In the case of time-limited paid parking, since the meter is able to determine the vehicle’s length of stay, curbside sensors can help reduce the problem of “meter feeding” by preventing patrons from returning to add more money once the time limit has been reached.

Figure 13 Curbside Sensors

Case Study City  Pacific Grove, CA

Pacific Grove, California installed 100 Smart Meters near the American Tin Cannery, a destination shopping neighborhood, and the Monterey Bay Aquarium. This area has more than two million visitors annually, and as a result, a very high demand for parking. Applying this technology involved installing a sensor in the curb to detect when a car enters or leaves a space, which re-sets the meter time (i.e. no one can find a meter that still has time paid for by the previous occupant). Monitoring the time a car is parked in a space aids significantly with enforcement, utilizing technology to reduce the burden of oversight by employees, and as the city notes, “do more with less.” The use of Smart Meters has allowed the City to encourage turnover of parking spaces by utilizing progressive rates which increase the amount charged as more time is spent in the parking space, rather than imposing a time limit on how long a car may remain in the space. In a study conducted with the cooperation of the neighboring City of Monterey, the two cities compared Smart Meter daily collections with standard meters in Monterey. The Smart Meters yielded $10.50 per day, while the standard meters provided $7.50 per day, demonstrating a 40% revenue benefit from the technologically advanced meters, helping to cover their higher installation costs and promote good parking management at the same time.

Best Practices

- San Francisco, CA (SFpark)
- Reading, PA
- Decatur, GA
- Pacific Grove, CA
- Florida International University
### Figure 14 Curbside Sensors Evaluation

**Timing Considerations**
- **Timeframe for Implementation**: Short
- **Timeframe for Impacts**: Weeks

**Economic Considerations**
- **Capital Cost**: $250-$800 per space for vehicle sensor and up to $150 per meter for data management.
- **O&M Cost**: $20 per month per space for data management.
- **Fiscal Impact**: Improves revenue due to increased enforcement productivity.
- **Staffing Needs**: Potentially significant reductions in enforcement staffing.

**Facilities Considerations**
- **Effect on Demand**: No direct & independent effect.
- **Effect on Supply**: No direct & independent effect.

**User Impact Considerations**
- **Effect on Employee Parking Availability**: Improved enforcement can reduce violations, thus increasing availability in some areas.
- **Effect on Residential Parking Availability**: Improved enforcement can reduce violations, thus increasing availability in some areas.
- **User Benefits/Customer Convenience**: Higher turnover rate. Automatically relays all relevant violation data to ticket writer. Improves compliance.

**Aesthetic Considerations**
- **Effect on Urban Design/StreetScape**: No direct & independent effect.
1.2.3. Automatic License Plate Readers

Automatic License Plate Readers, also sometimes referred to as “digital chalk” allow a fast-moving vehicle to scan the license plates of parked cars and check for vehicles that overstay the maximum time. This allows a single enforcement officer to check for parking compliance much faster than on foot. Automated license plate readers are capable of processing 2 vehicles per second at 30 mph/50 km/h and 1500 to 3000 parallel parked vehicles per shift in typical city situations. It significantly improves the enforcement officer’s range and productivity (typically 3 to 5 times better than walking with a handheld), thereby reducing enforcement cost and parker cheating. Because vehicle photos facilitate quicker and more accurate appeal resolution, overall revenue from tickets generally increases.

Figure 15  Automated License Plate Reader

Case Study City  Fredericksburg, VA

The City of Fredericksburg, Virginia is nestled in a region which is home to a number of civil war battle sites that generate a large volume of tourism activity for the city. Downtown boasts a thriving, charming business district with time-limited parking spaces. Monitoring the usage of spaces was a challenge to the City’s lone parking enforcement officer. The officer could handle only a small amount of the downtown area, to the exclusion of other parts of the city; to sweep the whole city would take five hours. Moreover, drivers were beginning to cheat the system by moving their cars according to the officer’s walking schedule; many of these drivers were not downtown patrons but employees consuming spaces intended for business patrons. To deal with these issues, a proposal was made to add two additional parking enforcement officers and additional handheld units, for a total cost of $110,000-$120,000 in the first year and $80,000 in years after. Instead, the city invested in drive-by digital chalking technology – or automated license plate readers – which scan license plates as the vehicle drives around the city. The system cost half of what the proposed handheld ticket writers and additional staff would have cost. Automated license plate readers are capable of processing 2 vehicles per second at 30 mph/50 km/h and 1500 to 3000 parallel parked vehicles per shift in typical city situations. It has significantly improved the enforcement officer’s range and productivity (typically 3 to 5 times better than walking with a handheld), thereby reducing enforcement cost and parker cheating.

In Fredericksburg, the initial ticket is a warning and tourists typically receive cautions so the rate of complaints to the police chief and mayor has dropped to virtually zero. Mailed tickets with initial warnings have been favorably received, and parkers overwhelmingly follow bylaws. The mailed tickets typically include a map of where to park and the reason for the ticket. Overall, parking space availability has improved by about 20%; and because vehicle photos facilitate quicker and more accurate appeal resolution, overall revenue from tickets has increased by about 50% each year even though the initial ticket is a warning. Benefits have included increased tourism, additional shoppers and more favorable visiting experiences.

Best Practices

| ● Petaluma, CA  ● Santa Barbara, CA |
| ● Napa, CA     ● Chicago, IL        |
| ● Sacramento, CA  ● Ft. Collins, CO |
| ● Tampa, FL    ● Fredericksburg, VA |
Figure 16  Automatic License Plate Readers Evaluation

<table>
<thead>
<tr>
<th>Timing Considerations</th>
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<tbody>
<tr>
<td>Timeframe for Implementation</td>
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<td>Timeframe for Impacts</td>
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<tr>
<th>Economic Considerations</th>
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</thead>
<tbody>
<tr>
<td>Capital Cost</td>
</tr>
<tr>
<td>O&amp;M Cost</td>
</tr>
<tr>
<td>Fiscal Impact</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Staffing Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can more easily identify repeat offenders.</td>
</tr>
<tr>
<td>Fewer contested tickets.</td>
</tr>
<tr>
<td>90% accuracy with license plate recognition.</td>
</tr>
<tr>
<td>Greatly increases productivity of enforcers.</td>
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<thead>
<tr>
<th>Facilities Considerations</th>
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<tbody>
<tr>
<td>Effect on Demand</td>
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<tr>
<td>Effect on Supply</td>
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<table>
<thead>
<tr>
<th>User Impact Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on Employee Parking</td>
</tr>
<tr>
<td>Availability</td>
</tr>
<tr>
<td>Effect on Residential Parking</td>
</tr>
<tr>
<td>Availability</td>
</tr>
<tr>
<td>User Benefits/Customer</td>
</tr>
<tr>
<td>Convenience</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aesthetic Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on Urban Design/Streetscape</td>
</tr>
</tbody>
</table>
(intentionally left blank)
1.3. Demand Management

Demand management strategies focus on influencing behavior of those traveling to the destination with the intent of balancing the number of vehicles at levels the supply can handle. Demand management influences traveler behavior to maintain occupancy levels of 85-percent considered the ideal level of utilization for on-street parking. This is most effectively achieved through the pricing of parking to influence use and create more balance in the parking system. The following section explains the potential management of parking demand through the use of pricing. This is followed by descriptions of series of revenue collection technologies that facilitate pricing and offer different improvements to customer benefits, enforcement, revenue collection, and availability for customers, employees, residents, and visitors.

In this section:

1.3. Demand Management ........................................... 21
1.3.1. Demand Responsive Pricing .................................... 22
1.3.2. Multi-Space Meters .............................................. 24
1.3.3. Pay by Cellphone ................................................. 30
1.3.4. Smart Cards ......................................................... 32
1.3.5. First Few Minutes Free .......................................... 34
1.3.6. In-Car Meters ......................................................... 36

An 85% occupancy rate is a widely-accepted industry standard for optimal on-street parking occupancies and 90% for off-street parking facilities. These are target rates for preventing the additional and unnecessary traffic circling for a space while still making good use of the parking supply and attracting customers.
1.3.1. Demand Responsive Pricing

Demand responsive pricing involves altering the cost of parking according to level of demand using market principles. In other words, drivers pay what they are willing to pay; in areas with higher demand, parking has a higher price; areas with lower demand, have a lower price. For some places, the market rate for parking is free. Prices generally will not change in real time based on current occupancy, but will instead be adjusted a few times a year based on recent occupancy data. By refining the price of parking periodically, it is possible to keep parking occupancy rates relatively close to the optimal 85-percent.

Figure 17  Demand Responsive Pricing

Case Study City  Redwood City, CA

In 2007, Redwood City, CA implemented a demand responsive parking pricing strategy to maintain an ideal utilization rate of 85% at their more desirable “front-door” curb spaces along Broadway, their primary commercial street. Prior to 2007, Broadway had 1-hour time limits but no meters which resulted in nearly 100-percent utilization all day, every day. The strategy involved installing multi-space meters and pricing different zones according to the observed demand. The initial approach instituted a clearly communicated $0.75/hour price on the main commercial strip and removing time limits completely. The program is revisited four times a year by evaluating occupancy data and adjusting pricing by increments of $0.25 up to four times a year. The goal of this quarterly adjustment is to achieve the target 85-percent utilization rate in each of the three designated pricing zones. Following the implementation of this hourly charge, the occupancy rate has averaged roughly 82-percent, parking stays have averaged 72-minutes, and off-street parking lot permit sales have increased by 50-percent.

Best Practices
- New York City, NY (Park Smart)
- Redwood City, CA
### Figure 18 Demand Responsive Pricing Evaluation

#### Timing Considerations

<table>
<thead>
<tr>
<th>Timeframe for Implementation</th>
<th>Timeframe for Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short</td>
<td>Months</td>
</tr>
</tbody>
</table>

#### Economic Considerations

<table>
<thead>
<tr>
<th>Capital Cost</th>
<th>O&amp;M Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>No direct capital cost.</td>
<td>Monitoring demand and adjusting pricing requires some administrative support.</td>
</tr>
</tbody>
</table>

- **Systems are typically built on-top of other technologies such as electronic meters, variable message boards, and curbside sensors. Costs are listed for these technologies in other sections of this matrix.**

#### Fiscal Impact

- Market rate pricing can result in high revenue.

#### Staffing Needs

- Less enforcement needs because no/fewer time limits.
- Administrative staff needed to monitor demand and recommend price adjustments.

#### Facilities Considerations

- **Effect on Demand**: Helps achieve real-time supply/demand equilibrium potentially decreasing demand by 30-80%.
- **Effect on Supply**: No direct & independent effect.

#### User Impact Considerations

<table>
<thead>
<tr>
<th>Effect on Employee Parking Availability</th>
<th>Effect on Residential Parking Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximizes short-term parking availability and increases turnover likely shifting employees away from the most desirable locations.</td>
<td>Maximizes short-term parking availability and increases turnover likely shifting residents away from long term parking in the most desirable locations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>User Benefits/Customer Convenience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensures that there is always a short-term parking space available in high-demand areas.</td>
</tr>
<tr>
<td>Decrease in traffic because it reduces &quot;cruising&quot; for parking.</td>
</tr>
<tr>
<td>Encourages long-term parkers to park off-street in less desirable locations.</td>
</tr>
<tr>
<td>Avoids &quot;2-hour shuffle&quot; of moving cars.</td>
</tr>
</tbody>
</table>

#### Aesthetic Considerations

<table>
<thead>
<tr>
<th>Effect on Urban Design/Streetscape</th>
</tr>
</thead>
<tbody>
<tr>
<td>No direct &amp; independent effect.</td>
</tr>
</tbody>
</table>
1.3.2. Multi-Space Meters

Multi-space meters provide more payment options, including bills and credit/debit cards. This makes payment more convenient for parkers, as they do not need to carry around excessive amounts of coins and don’t park illegally when they don’t have a quarter. Pay stations eliminate the need for a post and meter head at every parking space, promoting more open, pedestrian-friendly sidewalks and possibly reducing visual blight. This is particularly true on block faces with angled parking, where single-space meters are placed closely together. Each pay station serves approximately 7 to 8 parking spaces.

This technology often results in a significant decrease in operation and enforcement costs over traditional meters, as the status of parking facilities can be monitored remotely from the central office. These stations also help improve accountability since all collected monies are digitally accounted for by the meter. Another advantage of this parking strategy is that if one kiosk is broken, parkers can easily use an adjacent kiosk to pay for their parking, thereby eliminating the issue of free parking at broken meters. This type of meter does cost notably more to install than do traditional parking meters, but anecdotal evidence suggests that these additional costs can be recouped quickly through savings in operations costs and higher revenues compared to traditional meters.
Pay-and-Display

Pay-and-Display meters allow drivers to purchase a “certificate” for paid parking time which can then be displayed on their dashboard to prove compliance. This eliminates the need to paint stalls which may increase the parking supply by as much as 20-percent. It is less convenient than pay-by-space stations because the driver must return to the car to place the certificate in the vehicle and again when the time has expired.

Figure 19 Multi-Space Pay & Display

Case Study City  Park City, UT

Park City, Utah, a growing world-class summer and winter mountain resort destination nestled in the Wasatch Mountains and the home of over 7,300 full-time residents, implemented a multi-space pay and display program in 1998 in an effort to better manage parking on Main Street and to incentivize the use of transit. Modeled after Aspen, Colorado’s multi-space pay-and-display parking program, it involved the installation of 32 multi-space pay stations along a half-mile stretch of Park City’s historic Main Street. The meters replaced time-limited, free on-street parking with the objective of discouraging excessive employee parking and creating more parking availability for customers and visitors. To balance the strategy, free parking was made available in nearby garages within walking distance with frequent transit service available connecting the local garages with Main Street. In-car meters were also provided so that frequent users of Main Street could be given a discount on parking and experience less hassle with the new multi-space meters. Since the on-street meters were initially thought to be less intuitive than standard single-stall meters, Park City implemented a policy of issuing friendly educational citations with no monetary penalty for first time offenders.

Initially confronted with a significant amount of local business resistance, Park City identified a need to involve stakeholders and the local business community in the initial stages of the free to paid parking transition. Collaboration with businesses, and the selection of multi-space meters helped mitigate the negative feelings about converting to paid parking. Parking officials at Park City say that the business community is generally supportive. The multi-space pay and display units reduced the amount of equipment on the street minimizing the additional headache associated with snow removal (a big deal in Park City) and left more space on the narrow sidewalks available for pedestrians. Park City’s system was the first in the U.S. to include Credit Card payment as an option.

Patrons are happy to have multiple payment options, especially the Credit Card option because having proof of payment is viewed as a positive factor because it helps when disputing parking citations and provides a record for tax purposes.

Best Practices

- Boston, MA
- Philadelphia, PA
- Baltimore, MD
- Wilmington, MA
- Savannah, GA
- Northampton, MA
- Arlington, VA
- Cambridge, MA
## Pay-and-Display Evaluation

### Timing Considerations

<table>
<thead>
<tr>
<th>Timeframe for Implementation</th>
<th>Medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeframe for Impacts</td>
<td>Weeks</td>
</tr>
</tbody>
</table>

### Economic Considerations

<table>
<thead>
<tr>
<th>Capital Cost</th>
<th>$580 - $1,500 (per space); multi-space meters cover an average of 7 spaces; additional signage needed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O&amp;M Cost</td>
<td>Fewer devices to maintain at $15 per month per meter and stations wirelessly communicate maintenance needs. No need to stripe/re-stripe stalls.</td>
</tr>
<tr>
<td>Fiscal Impact</td>
<td>Next driver does not use the money leftover from the driver beforehand, increasing meter revenue.</td>
</tr>
<tr>
<td>Staffing Needs</td>
<td>Reduced enforcement staff time required due to improved efficiency, potentially 1/3 the amount of time. Reduced collection staff time required due to credit and smart card payment system.</td>
</tr>
</tbody>
</table>

### Facilities Considerations

| Effect on Demand              | No direct & independent effect. Varies depending on circumstances. Increased access to data enables regulators to enact more effective pricing which can help regulate demand. |
| Effect on Supply              | Increase in spaces per block of 15%-20% because spaces do not need to be striped. |

### User Impact Considerations

| Effect on Employee Parking Availability | No direct & independent effect. Effect is dependent on pricing structure and strategy. Commonly used for customer oriented parking, likely shifts employees away from ideal curb spaces. |
| Effect on Residential Parking Availability | No direct & independent effect. Effect is dependent on pricing structure and strategy. Commonly used for customer oriented parking but can be combined with residential permits. |

### Aesthetic Considerations

| Effect on Urban Design/Streetscape | Less visual clutter on sidewalk/streetscape compared to single space meters. Old meter poles can be reused for bicycle parking. Beneficial for historic districts (especially those with cobble streets) because of the lack of |
Pay-by-Space

Pay-by-Space meters allow drivers to pay for parking by entering their specific space number into the kiosk when paying, rather than by providing a receipt for display on the dashboard. These stations allow customers to continue shopping or choose to stay for dinner without requiring drivers to return to their vehicle as time extensions can be paid remotely (i.e., another station, by cell phone, etc.).

Figure 21 Multi-Space Pay-by-Space

Lowell, MA uses pay-by-space multi-space parking kiosks for some on-street parking. These kiosks allow parkers to pay for parking on a given block by entering their specific space number into the kiosk when paying, rather than by providing a receipt for display on the dashboard. Lowell replaced roughly 250 traditional parking meters with 35 of the new kiosks, which each serve approximately 7 to 8 parking spaces. The Parking Department in Lowell estimates that these changes have resulted in a forty percent increase in parking collections and a twenty to thirty-five percent decrease in operations and enforcement costs, since the status of parking facilities can be monitored remotely from the central office. These kiosks also help improve accountability since all collected monies are digitally accounted for by the meter, and “digital chalk” parking enforcement technology means that enforcement officers no longer need to manually patrol meters. Though Lowell officials stress that their kiosks are highly reliable, another advantage of this parking strategy is that if one kiosk is broken, parkers can easily use an adjacent kiosk to pay for their parking, thereby eliminating the issue of free parking at broken meters. While these kiosks end up costing about 40% more than traditional meters to install, Lowell estimates that the additional capital cost was recovered within the first year of operation due to operational savings and higher revenues. The program has been so successful in Lowell that the city is hoping to add an additional 20 pay-by-space kiosks later this year.

Best Practices

- Lowell, MA
- Redwood City, CA
- Whiterock, BC
- San Francisco, CA (motorcycle only)
- Charlotte, NC (pilot)
- Glendale, CA
### Figure 22  Pay-by-Space Evaluation

<table>
<thead>
<tr>
<th>Timing Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Timeframe for Implementation</strong></td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Timeframe for Impacts</strong></td>
<td>Weeks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capital Cost</strong></td>
<td>$580 - $1,500 (per space); multispace meters cover an average of 7 spaces; additional signage needed.</td>
</tr>
<tr>
<td><strong>O&amp;M Cost</strong></td>
<td>Fewer devices to maintain at $15 per month per meter and stations wirelessly communicate maintenance needs.</td>
</tr>
<tr>
<td><strong>Fiscal Impact</strong></td>
<td>Next driver does not use the money leftover from the driver beforehand, increasing meter revenue.</td>
</tr>
<tr>
<td><strong>Staffing Needs</strong></td>
<td>Reduced enforcement staff time required due to improved efficiency, potentially 1/3 the amount of time. Reduced collection staff time required due to credit and smart card payment system.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Demand</strong></td>
<td>Potential for a minor effect. Varies depending on circumstances. Increased access to data enables regulators to enact more effective pricing which can help regulate demand.</td>
</tr>
<tr>
<td><strong>Effect on Supply</strong></td>
<td>Varies - Potentially increases supply in areas previously designated as no parking. Likely decreases supply if spaces were unmetered and not striped.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>User Impact Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Employee Parking</strong></td>
<td>No direct &amp; independent effect; Effect is dependent on pricing structure and strategy. Commonly used for customer oriented parking, likely shifts employees away from ideal curb spaces.</td>
</tr>
<tr>
<td><strong>Effect on Residential Parking</strong></td>
<td>No direct &amp; independent effect; Effect is dependent on pricing structure and strategy. Commonly used for customer oriented parking but can be combined with residential permits.</td>
</tr>
</tbody>
</table>
| **User Benefits/Customer Convenience** | Option to pay with debit/credit/smartcard and cash.  
No need to return to car after paying meter.  
Better information (electronic screens with dynamic messaging).  
Can pay for additional time on space using any other pay-by-space machine (or by cellphone).  
Pay only for time used (can reenter space number when leaving to refund debit/credit cards). |

<table>
<thead>
<tr>
<th>Aesthetic Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Urban Design/Streetscape</strong></td>
<td>Less visual clutter on sidewalk/streetscape compared to single space meters. Old meter poles can be reused for bicycle parking. Less litter on the street compared to pay and display meters because receipts are not required.</td>
</tr>
</tbody>
</table>
1.3.3. Pay by Cellphone

Paying for parking by cellphone is a strategy that allows parkers to pay without cash while eliminating the need to install new credit-card capable revenue collection infrastructure on the street. This strategy eliminates the need for coins, allows people to receive text messages notifying them that their time is about to expire as well as extend legal parking time by paying remotely. Additionally, upon returning to their vehicle, a person may terminate the parking session and avoid paying for time that will not be used.

Figure 23 Pay by Cellphone

Case Study City Montgomery County, VA

Montgomery County began a 90-day pilot program for drivers to pay for parking by their cell phones, and the success of the pilot has determined that the program will be expanded to the entire county. Begun on January 4, 2010, the test area includes approximately 1,200 meters in a parking lot and garage, as well as on-street meters. The program eliminates the need for coins, allows people to receive text messages notifying them that their time is about to expire as well as extend their legal parking time by paying remotely. Additionally, upon returning to their vehicle, a person may terminate the parking session and avoid paying for time that will not be used. While the County does not have customer survey data for the program, it has received a significant amount of positive feedback from the public regarding the program. Between the initiation of the pilot and April 2, 2010, more than 1,900 people have signed up for the program using it 6,749 times. At this point, there is an average of more than 150 pay-by-cell sessions per day, constituting approximately 6% of daily use within the study area. By expanding the program to the full County, 14,000 meters will be changed to accommodate this new technology.

Best Practices

- Coral Gables, FL
- Los Angeles, CA
- Vancouver, BC
- West Palm Beach, FL
- Montgomery County, MD (pilot 2010)
- Washington, DC
### Figure 24  Pay by Cellphone Evaluation

<table>
<thead>
<tr>
<th>Timing Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeframe for Implementation</td>
<td>Medium</td>
</tr>
<tr>
<td>Timeframe for Impacts</td>
<td>Weeks</td>
</tr>
</tbody>
</table>

#### Economic Considerations

<table>
<thead>
<tr>
<th>Capital Cost</th>
<th>Includes cost of labeling each meter to provide clear space identity.</th>
</tr>
</thead>
<tbody>
<tr>
<td>O&amp;M Cost</td>
<td>Can eliminate maintenance of meters (some systems keep physical meters in place); Requires maintenance of pay-by-phone system.</td>
</tr>
<tr>
<td>Fiscal Impact</td>
<td>Increases revenue due to improved compliance.</td>
</tr>
<tr>
<td>Staffing Needs</td>
<td>Officials utilize PDAs that have web-browsing capabilities to identify cars that are non-compliant. No reports of a need for additional training.</td>
</tr>
</tbody>
</table>

#### Facilities Considerations

<table>
<thead>
<tr>
<th>Effect on Demand</th>
<th>No direct &amp; independent effect. Variates depending on circumstances. Increased access to data enables regulators to enact more effective pricing which can help regulate demand.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on Supply</td>
<td>Potentially introduces new parking areas.</td>
</tr>
</tbody>
</table>

#### User Impact Considerations

| Effect on Employee Parking Availability | No direct & independent effect. Effect is dependent on pricing structure and strategy. Commonly used for customer oriented parking, likely shifts employees away from ideal curb spaces. |
| Effect on Residential Parking Availability | Not applicable. |

#### User Benefits/Customer Convenience

| No cash or credit card needed onsite. Only charged for the time actually parked. No walking back and forth to meters. Can dial to extend time from any location. Can receive text messages to warn of almost-expired meters. |

#### Aesthetic Considerations

| Effect on Urban Design/Streetscape | Adds minimal signage, typically to existing parking meter heads and additional signage may also be required. |
1.3.4. Smart Cards

Smart cards represent another alternative payment system for metered parking that eliminates the need to carry cash without using multi-space kiosks. Smart cards are stored-value cards that can be inserted in the meters to add time. Users insert the card when they first arrive at the meter and allow the meter to increase the time increment purchased in $0.25 steps; users remove the card when the amount of time displayed is adequate. Users are billed only for the time actually spent parking – rounded to the nearest minute by swiping the card again when they leave the space. This is another advantage over coin systems, where users may need to run back to the meter to add more time, or may overpay initially and lose the money.

Figure 25 Smart Cards

Case Study City Princeton, NJ

In the past few years, the Borough of Princeton, NJ has replaced roughly 1,200 on-street meters with new meters capable of accepting both coins and smart card technology. The smart cards add a level of convenience by replacing the need to carry coins. Smart cards are stored-value cards that can be inserted in the meters to add time. Users insert the card when they first arrive at the meter and allow the meter to increase the time increment purchased in $0.25 steps; users remove the card when the amount of time displayed is adequate. Users are billed only for the time actually spent parking – rounded to the nearest minute by swiping the card again when they leave the space. This is another advantage over coin systems, where users may need to run back to the meter to add more time, or may overpay initially and lose the money. Smart cards may be “loaded” or “recharged” with $20 (minimum) and up to $60 (maximum). Since this approach requires pre-payment, users receive a 10% bonus on the cash they load on the card. In addition to on-street meters, the cards can also be used at a 540-space garage. The system has been well received in the community because it has been successful at increasing convenience and fairness for users, resulting in a 20-percent drop in issued tickets since the initiation of the project.

Best Practices

- Minneapolis, MN
- Greenwich, CT
- Princeton, NJ
- Bel Air, MD
- Philadelphia, PA
- Washington, DC
### Timing Considerations
- **Timeframe for Implementation**: Short
- **Timeframe for Impacts**: Months

### Economic Considerations
- **Capital Cost**: Installation of meters and card loading stations. Roughly $600/meter including cards, software and meter.
- **O&M Cost**: Reduced maintenance costs.
- **Fiscal Impact**: Potential for nearly 25% increase in net revenue.
- **Staffing Needs**: Same as standard meter enforcement.

### Facilities Considerations
- **Effect on Demand**: No direct & independent effect. Varies depending on circumstances but pricing can help regulate demand.
- **Effect on Supply**: No direct & independent effect.

### User Impact Considerations
- **Effect on Employee Parking Availability**: No direct & independent effect.
- **Effect on Residential Parking Availability**: No direct & independent effect.
- **User Benefits/ Customer Convenience**: Unused time is refunded. No coins needed. Especially beneficial for those that park frequently.

### Aesthetic Considerations
- **Effect on Urban Design/Streetscape**: More streamlined, attractive, modern meters.
1.3.5. First Few Minutes Free

A frequent argument against charging for parking in commercial areas is that requiring payment for quick trips to the store might discourage shoppers, particularly those who just need to pick up a single item. One strategy employed to help alleviate this problem is offering the first few minutes of parking free of charge. This technique does reduce meter revenues, but because it is necessary to push a button on the meter to credit the free minutes it is generally too cumbersome for parkers to return every few minutes to reset the meter during longer-duration visits. Generally, this strategy is employed at metered spaces near destinations with high levels of quick-errand activity, such as the pharmacy or coffee shop.

**Case Study City** Des Moines, IA

As a way of facilitating short-term parking for quick errands, the Downtown Community Alliance, working with the City of Des Moines, designated certain downtown parking meters in high traffic areas that would offer a short period of free parking. These meters, marked by green signs indicating they are for 30-minute parking, have a button the driver can push for fifteen minutes of free parking. The program began ten years ago, when one space close to the arena football box office was converted to a short-term meter, allowing people to park quickly and purchase tickets. The change was very popular, and the City has since expanded the program to include meters close to other high demand locations, including City Hall, the Des Moines Register (newspaper), the Iowa State Bank, as well as coffee shops and performance venues. The program does not have any goals in terms of the number of short-term meters, instead responding to the needs of the downtown demand, and installing or removing these meters as demand changes.

<table>
<thead>
<tr>
<th>Best Practices</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Des Moines, IA</td>
<td></td>
</tr>
<tr>
<td>Concord, MA</td>
<td></td>
</tr>
</tbody>
</table>
### Figure 28 First Few Minutes Free Evaluation

**Timing Considerations**
- **Timeframe for Implementation**: Short
- **Timeframe for Impacts**: Weeks

**Economic Considerations**
- **Capital Cost**: $350 to $500 per unit.
- **O&M Cost**: Same as standard meters
- **Fiscal Impact**: Reduces meter revenue.
- **Staffing Needs**: Same as standard meters.

**Facilities Considerations**
- **Effect on Demand**: May stimulate demand for free spaces for short trips.
- **Effect on Supply**: No direct & independent effect.

**User Impact Considerations**
- **Effect on Employee Parking Availability**: No direct & independent effect.
- **Effect on Residential Parking Availability**: No direct & independent effect.
- **User Benefits/Customer Convenience**: Free very short term parking. Improves customer parking availability.

**Aesthetic Considerations**
- **Effect on Urban Design/Streetscape**: Same as standard meters.
1.3.6. In-Car Meters

*In-car meters* are small devices which are loaded with pre-paid parking time. The user displays the meter in their car, often on the dashboard or hanging from the rearview mirror, and activates the device when parked at a metered space. The digital display counts down the amount of paid parking time remaining, allowing a parking enforcement officer to see through the window that the car is legally paying for the parking time. This strategy is popular with frequent users of metered parking areas, especially those who are constantly “in and out”.

**Figure 29**  
In-Car Meters

**Case Study City**  
Park City, UT

Park City, Utah made in-car meters available to residents while it simultaneously implemented a multi-space pay and display program. In-car meters are available for purchase from the city for $50.00 and provide slightly discounted parking compared to the meter stations. The limited number of vendors that offer in-car meters is an important consideration when designing an in-car meter program. Park City was sure to acquire a sufficient supply of meters to ensure continuity of the program during a potential vendor search if the current vendor were to cease production. The in-car meters have been well received by those who are willing to pay for the convenience of on-street parking without having to visit the pay-and-display station each time they park. According to Park City Public Works Director Kent Cashel, the program is frequently used by Real Estate agents and business owners who need to ‘get in and get out’ quickly. Many residents who frequent main-street clubs, restaurants and shopping also use the in-car meters. Employees typically don’t use in-car meters because it is too expensive for all-day parking instead parking in one of the free public garages or using the free public transit service.

**Best Practices**

- Miami Beach, FL
- Ft. Lauderdale, FL
- University of Wisconsin-Madison
- Buffalo, NY
- Tampa, FL
- Aspen, CO
- Grand Rapids, MI
### Figure 30  In-Car Meter Evaluation

<table>
<thead>
<tr>
<th><strong>Timing Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Timeframe for Implementation</strong></td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Timeframe for Impacts</strong></td>
<td>Months</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Economic Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capital Cost</strong></td>
<td>$30 to $50 per unit if purchased by municipality.</td>
</tr>
<tr>
<td><strong>O&amp;M Cost</strong></td>
<td>Reduced operational costs (no coin collection, management of petty cash, and reconciling pay-and-display tickets). Maintenance cost is assumed by owner or vendor.</td>
</tr>
<tr>
<td><strong>Fiscal Impact</strong></td>
<td>Better revenue management. Enables revenue collection in previously unpriced locations, expanding revenue stream.</td>
</tr>
<tr>
<td><strong>Staffing Needs</strong></td>
<td>Most users outsource operations to vendor. Enforcement similar to traditional meters.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Facilities Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Demand</strong></td>
<td>No direct &amp; independent effect. Varies depending on circumstances but pricing can help regulate demand.</td>
</tr>
<tr>
<td><strong>Effect on Supply</strong></td>
<td>Increase in spaces per block of 15%-20% because spaces do not need to be striped.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>User Impact Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Employee Parking Availability</strong></td>
<td>Favors people who commonly park for longer periods in the same location every day. Potentially increases parking available for long term parking.</td>
</tr>
<tr>
<td><strong>Effect on Residential Parking Availability</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>User Benefits/Customer Convenience</strong></td>
<td>No need for coins or cards. Better for frequent or quick in and out parkers. Do not need to walk back and forth to car. Good for those that park in the same place regularly (can be used for monthly spaces). User pays for only actual time parked.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Aesthetic Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Urban Design/Streetscape</strong></td>
<td>Traditional meters are unnecessary, removing clutter from the streetscape.</td>
</tr>
</tbody>
</table>
(intentionally left blank)
1.4. Zoning and Incentives

Zoning and Incentive Strategies generally use creative regulatory strategies to encourage more efficient use of existing resources. This may include mandates concerning how much parking can/must be provided or offering incentives to encourage particular travel behavior.
1.4.1. Residential Parking Benefit District

A residential parking benefit district is designed to protect local residents from parking difficulties in areas near major destinations. This is usually accomplished by issuing residents permits that allow them to park for free, while offering non-residents paid parking, either through a fee or by offering a finite number of permits. Permits could be purchased by any non-resident but it is usually employees whose utilization patterns are less likely to conflict with residents. A portion of the revenue from the visitor permits or on-street fees within the district are reinvested in public improvements chosen by the residential parking benefit district.

Figure 31 Residential Parking Benefit District

Case Study City Aspen, CO

In February of 2009 the resort community of Aspen, CO implemented a Residential Parking Benefits District to protect residents from parking difficulties. Prior to the implementation of this program, workers and visitors spending the day in downtown Aspen were able to park for free all day in the residential areas nearby, making it difficult for residents to find parking at times. The new system of Residential Parking Districts allows non-residents free parking for up to two hours. Non-residents wishing to parking within the district for more than two hours are mandated to purchase a $7 day-pass by cell phone or from downtown vendors. Residents of the district are eligible for permanent parking permits that allow them to park their vehicles for free. Digital license plate readers automatically record all plates in the parking district over the course of an eight hour period in a central database, preventing scofflaws from simply moving their car to another spot every two hours. Those who purchase day-passes by cell phone have their license plate number immediately entered into the database. Visitors who buy passes from downtown vendors are not entered into the database the same day, thus requiring some manual enforcement.

Aside from the purchase of an automatic license plate reader for about $90,000, which the City believes has been fully recouped though increased revenues, the system was relatively inexpensive to implement. The program has recovered the capital cost for its implementation, and being less labor-intensive than the former manual “chalking” method, the operating expenses are reportedly lower.

<table>
<thead>
<tr>
<th>Best Practices</th>
<th>• Pasadena, CA</th>
<th>• Tucson, AZ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Aspen, CO</td>
<td>• Santa Cruz, CA</td>
</tr>
</tbody>
</table>
## Figure 32  Residential Parking Benefit District Evaluation

<table>
<thead>
<tr>
<th>Timing Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Timeframe for Implementation</strong></td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Timeframe for Impacts</strong></td>
<td>Years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capital Cost</strong></td>
<td>Dependent on implementation program, potentially just signage if meters are present, may involve installing meters. $350/single space to $10k/multi-space (5-10 spaces).</td>
</tr>
<tr>
<td><strong>O&amp;M Cost</strong></td>
<td>Signage and meter maintenance as well as minor administrative cost for managing permitting.</td>
</tr>
<tr>
<td><strong>Fiscal Impact</strong></td>
<td>Revenue is generated for reinvestment in the neighborhood.</td>
</tr>
<tr>
<td><strong>Staffing Needs</strong></td>
<td>Administrative staffing to manage revenue tracking and distribution.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Demand</strong></td>
<td>Workday/work hour demand is regulated through flexible pricing.</td>
</tr>
<tr>
<td><strong>Effect on Supply</strong></td>
<td>Potentially increases supply available to employees/residents by making previously prohibited residential streets available to employees during the daytime and residents in evenings.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>User Impact Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Employee Parking Availability</strong></td>
<td>Increases parking available to employees during normal working hours.</td>
</tr>
<tr>
<td><strong>Effect on Residential Parking Availability</strong></td>
<td>Helps protect residents from spill over when pricing is implemented in neighboring areas.</td>
</tr>
<tr>
<td><strong>User Benefits/Customer Convenience</strong></td>
<td>Residents are protected from excessive parking spillover from commercial areas making them more likely to find a space in the neighborhood Parking in commercial adjacent neighborhoods is managed to provide additional parking to employees/commuters</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aesthetic Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Urban Design/Streetscape</strong></td>
<td>Revenue is directly reinvested to improve streetscapes and public space in residential districts.</td>
</tr>
</tbody>
</table>
1.4.2. Parking Benefit Coordination District

A parking benefit coordination district pools parking revenue collected within the district and chooses projects that improve transportation serving the district. Parking benefit districts traditionally cover central commercial areas with high demand for parking. Business owners in the district collectively decide specific ways to reinvest parking meter revenue in the district. This revenue can be used to fund projects that encourage visitors to use transit and bike/ped alternatives over driving. In some cases this funding may be used to provide free transit passes to all downtown employees, a Guaranteed Ride Home program, ride-matching services, bicycle parking or other services.

![Figure 33 Parking Benefit Coordination District](image)

Case Study City  Boulder, CO

Faced with both a shortage of customer parking and its citizens’ aversion to additional traffic, the City of Boulder, Colorado, developed a Parking Benefit District (PBD) called the Central Area General Improvement District (CAGID) that combined reduced subsidies for downtown parking with aggressive transportation demand management. All downtown parking revenue, including more than $1 million per year from meters and over $2 million per year from garages, is returned to CAGID for area improvements. Among other things, the revenue is used to fund more than $325,000 per year worth of transportation demand management programs, including a free universal transit pass for all downtown employees ("Eco-Pass"), a Guaranteed Ride Home program, ride-matching services, bicycle parking and a number of other benefits.

Due to concerted efforts to invest in alternative mobility strategies, downtown Boulder has grown with little increase in traffic congestion. Since the establishment of downtown baseline figures in 1995, the drive-alone rate has fallen from 56% to 35% in 2008, while the transit rate has more than doubled from 15% to 32%. According to the City of Boulder, the drive-alone rate began dropping dramatically after 1999 because of the increase in transit service (17 different routes at 15 minute headways) and the emergence of an Eco-Pass “culture” that became universal with the PBD subsidies. Roughly 50% of downtown employees now live within two blocks of a transit stop and the resulting ridership is estimated at a parking equivalent of 4,390 spaces. Already, rapid growth has brought Boulder close to the population and employment projections for 2020. The downtown pedestrian-oriented “Pearl Street Mall” has tripled in length in the past decade, as automobile-oriented parcels at either end have been redeveloped.

Best Practices
- Boulder, CO
- Old Pasadena, CA
- San Diego, CA
### Figure 34 Parking Benefit District Evaluation

<table>
<thead>
<tr>
<th>Timing Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeframe for Implementation</td>
<td>Medium</td>
</tr>
<tr>
<td>Timeframe for Impacts</td>
<td>Years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Considerations</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Capital Cost</td>
<td>Dependent on implementation program, potentially just signage if meters are present, may involve installing meters. $350/single space to $10k/multi-space (5-10 spaces).</td>
</tr>
<tr>
<td>O&amp;M Cost</td>
<td>Signage and meter maintenance as well as administrative cost to manage revenue capture and reinvestment.</td>
</tr>
<tr>
<td>Fiscal Impact</td>
<td>One parking space can generate almost as much revenue as property tax. Need for construction of additional costly parking structures is reduced.</td>
</tr>
<tr>
<td>Staffing Needs</td>
<td>Administrative staffing to manage revenue tracking and distribution.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on Demand</td>
<td>No direct &amp; independent effect. Varies depending on circumstances but pricing can help regulate demand.</td>
</tr>
<tr>
<td>Effect on Supply</td>
<td>Varies - can increase supply dramatically when funds are used to construct new parking facilities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>User Impact Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on Employee Parking Availability</td>
<td>No direct &amp; independent effect.</td>
</tr>
<tr>
<td>Effect on Residential Parking Availability</td>
<td>Varies - If combined with residential parking permits, the availability of residential parking will be less impacted; if not combined with residential parking permits, residents will pay market rates for on-street parking.</td>
</tr>
<tr>
<td>User Benefits/Customer Convenience</td>
<td>Safer, more attractive and enjoyable walking environment. Improved commercial district attracts customers for local merchants.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aesthetic Considerations</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Effect on Urban Design/Streetscape</td>
<td>Revenue is directly reinvested to improve streetscapes and public space in commercial districts, making the area more attractive.</td>
</tr>
</tbody>
</table>
1.4.3. In-Lieu Fees

Many municipal codes require property owners provide off-street parking for those persons who will use the facility. **In-lieu fees** allow developers to pay for parking improvements elsewhere instead of providing parking onsite. This allows more development in central areas where space for additional parking is hard to come by. This program can provide funding to help develop shared parking facilities such as municipal garages or to fund public transit services.

**Figure 35**  
*In-Lieu Fee*

**Case Study City**  
Jackson, WY

Jackson, Wyoming, a ski resort town with a year-round population of more than 8,000 people, instituted a fee in-lieu of parking program in 1994. In order to address concerns that economic development was being obstructed by parking minimums, the Town established a Downtown Special Parking Area, and new developments within this district were allowed to opt out of providing the minimum required parking spaces by paying a fee per stall that they would otherwise be required to be provided. The fee amount depends upon the number of required parking spaces which the developer would like to opt out of building, and is $8,500 per space, for up to five stalls, and $17,000 each, for six and more parking spaces. The fee amount has been adjusted over the years that the program has been in place to accommodate for inflation and changes in construction costs. All fees collected go into a fund dedicated to parking construction. For those existing uses that had no parking when the program was adopted, they were given parking fee credits, based on the off-street parking requirements at the time, to allow for future redevelopment. According to a planner within the Jackson Planning and Building Department, the program is used in at least half of the projects developed in the downtown, often to make up a small deficit between the minimum spaces required and the amount the projects are able to supply.

**Best Practices**
- Jackson, WY
- Culver City, CA
- Chapel Hill, NC
- State College, PA
- Montgomery County, MD
- Bend, OR
- Lake Forest, IL
- Miami's Coconut Grove, FL
### Figure 36 In-Lieu Fees Evaluation

<table>
<thead>
<tr>
<th><strong>Timing Considerations</strong></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Timeframe for Implementation</strong></td>
<td>Short</td>
</tr>
<tr>
<td><strong>Timeframe for Impacts</strong></td>
<td>Years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Economic Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capital Cost</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>O&amp;M Cost</strong></td>
<td>See staffing</td>
</tr>
<tr>
<td><strong>Fiscal Impact</strong></td>
<td>Current national average of $16k per space from the developer.</td>
</tr>
<tr>
<td><strong>Staffing Needs</strong></td>
<td>Additional effort and the establishment of new internal accounting procedures and policies will be needed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Facilities Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Demand</strong></td>
<td>No direct &amp; independent effect.</td>
</tr>
<tr>
<td><strong>Effect on Supply</strong></td>
<td>Reduces on-site supply at the time of development. Increases off-site supply if funds are used to build shared off-site parking.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>User Impact Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Employee Parking Availability</strong></td>
<td>Reduces the availability of on-site parking for participating employers.</td>
</tr>
<tr>
<td><strong>Effect on Residential Parking Availability</strong></td>
<td>Unless combined with other strategies such as residential parking permits, could result in increased spill-over parking in residential neighborhoods.</td>
</tr>
<tr>
<td><strong>User Benefits/Customer Convenience</strong></td>
<td>Allows for more infill development. Developers may use potential savings to expand the scope of the project.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th><strong>Aesthetic Considerations</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Effect on Urban Design/Streetscape</strong></td>
<td>Supports a more uniform built environment and a more active street life.</td>
</tr>
</tbody>
</table>
1.4.4. Parking Cash Out & Universal Transit Passes

Parking cash-out is a policy whereby employees who may be offered parking as a benefit of their job are offered monthly cash benefits or free transit passes in exchange for giving up their free or employee-paid parking. Often, revenues from paid parking facilities will pay for the free employee transit passes and other benefits. This strategy reduces employee parking demand through financial incentives or free alternative transportation.

Figure 37 Parking Cash Out & Universal Transit Passes

Case Study City  Boulder, CO

Boulder, Colorado is served by a Parking Benefit District called the Central Area General Improvement District (CAGID), which manages parking and subsidizes alternative mode transportation options in order to reduce auto-dependence and support a more walkable downtown. This multi-modal focus was also prompted by the reality of limited street capacities to handle more traffic, as well as simple economics. As put by James Bailey, former CAGID planner who helped establish the program: “CAGID realized early that the economics of parking garages are dismal.” Rather than expand garage capacity, the CAGID Board decided to invest in alternatives. CAGID’s non-parking programs are managed through the City’s Downtown and University Hill Management Division. The “Eco-Pass” program provides free unlimited-ride transit passes to more than 8,300 employees of 1,200 different downtown businesses. The CAGID pays a flat fee to the transit district for each employee enrolled in the program, regardless of whether the employee actually rides transit. Because every single employee in the downtown is enrolled in the program, the Regional Transportation District provides the transit passes at a deep bulk discount — currently only $111 per person, per year. In addition to the Eco-Pass program, the CAGID also offers ride-matching services and a Guaranteed-Ride-Home program that allows those who left their car at home to have an allowance of free taxi rides home in case of any unexpected need to work late or a home emergency. In 2009, these programs cost nearly $755,000. However, they are fully funded through CAGID revenues as the Downtown Management Commission has determined that effective demand management investments are a far cheaper strategy than building new parking alone.

Best Practices
- Denver, CO
- Boulder, CO
- Santa Clara County, CA
### Figure 38 Parking Cash Out & Universal Transit Passes Evaluation

<table>
<thead>
<tr>
<th>Timing Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeframe for Implementation</td>
<td>Short</td>
</tr>
<tr>
<td>Timeframe for Impacts</td>
<td>Months</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capital Cost</strong></td>
<td>Annual parking cash equivalent for $100 to $300 a year or a free transit pass for $50 to $100 a month to each participant.</td>
</tr>
<tr>
<td><strong>O&amp;M Cost</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Fiscal Impact</strong></td>
<td>Produces a cost savings by avoiding unnecessary parking expansion. Transit passes produce further savings over the parking cash out.</td>
</tr>
<tr>
<td><strong>Staffing Needs</strong></td>
<td>Minor administrative staffing needs.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Demand</strong></td>
<td>Reduces existing &amp; unmet parking demand.</td>
</tr>
<tr>
<td><strong>Effect on Supply</strong></td>
<td>No direct &amp; independent effect.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>User Impact Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Employee Parking Availability</strong></td>
<td>Increases in carpooling, biking, walking and transit ridership free up parking, improving parking availability.</td>
</tr>
<tr>
<td><strong>Effect on Residential Parking Availability</strong></td>
<td>Increases in carpooling, biking, walking and transit ridership free up parking, improving parking availability.</td>
</tr>
<tr>
<td><strong>User Benefits/Customer Convenience</strong></td>
<td>Discounted/free transit passes. Compensation for not using a parking space. Encourages alternative travel.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aesthetic Considerations</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Urban Design/Streetscape</strong></td>
<td>No direct &amp; independent effect.</td>
</tr>
</tbody>
</table>
1.4.5. Unbundled Parking

Many residential and commercial leases in buildings that include off-street parking often assume that the lessee will want parking spaces, and will therefore include the cost of those spaces in the total cost of the lease. ***Unbundling*** this means the cost of the facility and parking are separate, allowing lessees to make an educated decision on how much parking is required.

**Figure 39** Unbundled Parking

**Case Study City**  Bellevue, WA

Bellevue, Washington, a city of nearly 120,000 sits about 10-miles from downtown Seattle, requires downtown office buildings of more than 50,000 square feet to identify the cost of parking as a separate line item in all leases. This also requires that the minimum monthly rate per space is not less than twice the price of a bus pass. For example, with the price of a monthly bus pass at $72 in 2003, the minimum price of a leased parking space was $144 a month. “Unbundling” parking costs separates the rent for office and parking. It does not increase the total rent that is collected since the cost of occupying the office floor space is decreased when the cost for parking is separated. This innovative policy has several advantages. It makes it easy for employers to “cash-out” parking for employees (that is, to offer employees the value of their parking space as a cash subsidy if they do not drive to work), since employers can save money by leasing fewer spaces when fewer employees drive. It also makes it easier for shared parking arrangements to occur, since building owners can more easily lease surplus parking spaces to other users. Combined with its Commute Trip Reduction (CTR) program of incentives, unbundling of parking has influenced a drop in the drive alone commute rate from 81% in 1990 to 57% in 2000.

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive Alone</td>
<td>89%</td>
<td>54%</td>
</tr>
<tr>
<td>Carpool</td>
<td>9%</td>
<td>12%</td>
</tr>
<tr>
<td>Bus</td>
<td>1%</td>
<td>17%</td>
</tr>
<tr>
<td>Walk, bike</td>
<td>1%</td>
<td>17%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Best Practices**

- Bellevue, WA
- Dudley Village, Dorchester, MA
- St. Louis, MO
- San Francisco, CA
### Figure 40  Unbundled Parking Evaluation

<table>
<thead>
<tr>
<th>Timing Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeframe for Implementation</td>
<td>Short</td>
</tr>
<tr>
<td>Timeframe for Impacts</td>
<td>Years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economic Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Cost</td>
<td>None</td>
</tr>
<tr>
<td>O&amp;M Cost</td>
<td>None</td>
</tr>
<tr>
<td>Fiscal Impact</td>
<td>No impact on municipalities. Homeowners can choose reduced housing costs. Employers can choose reduced lease rates.</td>
</tr>
<tr>
<td>Staffing Needs</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Facilities Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on Demand</td>
<td>Revealing the cost of parking can reduce demand 10-30%</td>
</tr>
<tr>
<td>Effect on Supply</td>
<td>Potentially decreases supply in new residential developments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>User Impact Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on Employee Parking Availability</td>
<td>Potentially decreases parking available to employees if the employer chooses to lease fewer spaces.</td>
</tr>
<tr>
<td>Effect on Residential Parking Availability</td>
<td>Reduces the parking available to residents who choose not to purchase parking.</td>
</tr>
<tr>
<td>User Benefits/Customer Convenience</td>
<td>Increases housing affordability and housing choice. Encourages walking, cycling, and taking transit. Frees up space for expanded in-fill or increased public space.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aesthetic Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on Urban Design/Streetscape</td>
<td>A reduction in the amount of space dedicated to parking translates into more space available for buildings or public space.</td>
</tr>
</tbody>
</table>
1.4.6. Shared Parking

In areas mixed-use, it may be redundant to provide separate off-street parking for the wide range of users. For instance, many retail or office establishments will not need off-street parking overnight during the hours that residents have a high demand. Mixed-use settings offer the opportunity to *share parking* spaces between various uses, thereby reducing the total number of spaces required compared to the same uses in stand-alone developments. This is a primary benefit in mixed-use development contexts of moderate-to-high density. Shared parking operations offer many localized benefits to the surrounding community, including a more efficient use of land resources and reduced traffic congestion.

**Figure 41**  Shared Parking

**Case Study City**  Middleborough, MA

Middleborough, MA altered its zoning code to eliminate parking requirements for second or third story downtown residential units above retail which are also within a quarter-mile of overnight public parking. The effect was to encourage sharing of the existing commercial use parking that was otherwise vacant most evenings and weekends with the recognition that residential and commercial uses have peak parking demand at opposite times of day. Lifting the automatic construction of parking spaces associated with new residential units has had a significant positive impact upon the downtown for both those looking to live in the downtown as well as business owners. Property owners have been able to generate additional income from their buildings by opening upper floors as residences, while at the same time allowing them to keep rents low for businesses on the street level. Improvements to downtown properties have yielded increased property value, which in turn, has boosted property tax revenues. The Town has assisted several property owners in receiving four Housing Development Support Grants to provide 25 downtown affordable housing units.

**Best Practices**
- Montgomery County, MD
- Boulder, CO
- Cambridge, MA
- Middleborough, MA
### Figure 42 Shared Parking Evaluation

<table>
<thead>
<tr>
<th><strong>Timing Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Timeframe for Implementation</strong></td>
<td>Short</td>
</tr>
<tr>
<td><strong>Timeframe for Impacts</strong></td>
<td>Years</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Economic Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capital Cost</strong></td>
<td>Parking supply required for new developments can be reduced 40-60%; May require reconfiguration of existing lots to accommodate new pedestrian circulation movements.</td>
</tr>
<tr>
<td><strong>O&amp;M Cost</strong></td>
<td>Varies - fewer spaces to maintain mean lower maintenance costs, but shared parking generally requires more enforcement and administrative effort.</td>
</tr>
<tr>
<td><strong>Fiscal Impact</strong></td>
<td>Shared parking alone has no direct fiscal impact. When combined with In-Lieu fees, however, shared parking can generate revenue to support other parking and transportation management strategies.</td>
</tr>
</tbody>
</table>

| **Staffing Needs** | Could require assigning or hiring a facility manager, or possibly a third-party parking brokerage service. |

<table>
<thead>
<tr>
<th><strong>Facilities Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Demand</strong></td>
<td>Managing supply at near-capacity can deter demand, especially when alternatives are readily available.</td>
</tr>
<tr>
<td><strong>Effect on Supply</strong></td>
<td>10%-30% reduction in requirements; 20% parking available at peak times (Arlington County, VA)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>User Impact Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Employee Parking Availability</strong></td>
<td>Although the objective of shared parking is to provide an amount such that there is always 10 - 30 percent availability, this strategy could be perceived as a reduction in availability by employees.</td>
</tr>
<tr>
<td><strong>Effect on Residential Parking Availability</strong></td>
<td>Unless combined with other strategies such as residential parking permits, could result in increased spill-over parking in residential neighborhoods.</td>
</tr>
<tr>
<td><strong>User Benefits/Customer Convenience</strong></td>
<td>'Park-once' trips reduce the amount of travel and cruising and reduces traffic congestion; Shared spaces may, however, be perceived as a loss of prestige.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Aesthetic Considerations</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect on Urban Design/Streetscape</strong></td>
<td>Shared parking support a more compact urban environment creates more attractive streetscapes and can aid historic preservation efforts by reducing the land-area needed for new construction.</td>
</tr>
</tbody>
</table>
1.4.7. Parking Maximums

Parking maximums are designed to use regulatory frameworks to set an absolute upper limit on how much parking may be provided at any given building or site. Doing away with parking minimum requirements removes a significant barrier to residential in-fill development, effectively reducing the cost by not requiring parking. Implementing parking maximums also prevents developers from oversupplying parking for a particular land use. In addition, there are environmental benefits due to the reduction in area devoted to paved surfaces.

Figure 43 Parking Maximums

Case Study City Eugene, OR

Eugene, OR has adopted parking maximum restrictions for residential land uses, which sets a limit on the amount of parking that can be provided for each residential unit, rather than parking minimums, which mandate a certain number of parking spaces be supplied for each residential unit. The use of parking maximums removes the requirement for the property owner to supply a set minimum amount of parking while still allowing a limited supply of parking. In doing away with parking minimum requirements, Eugene removed a significant barrier to residential in-fill development, effectively reducing the cost by not requiring parking. In implementing parking maximums, Eugene prevented developers from oversupplying parking for a particular land use. In addition to parking maximums, Eugene’s zoning code allows certain reductions in parking requirements if a parking study demonstrates that the proposed amount will be sufficient to meet demand. While at the same time encouraging the use of other modes of transportation and helping to decrease congestion, Eugene has implemented these changes to increase density and reduce the amount of land dedicated to parking, advancing efforts to improve the quality of water and lessen the amount of storm water runoff.

<table>
<thead>
<tr>
<th>Best Practices</th>
<th>Burlington, MA</th>
<th>Cambridge, MA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Somerville, MA</td>
<td>Belmont, MA</td>
</tr>
</tbody>
</table>
**Figure 44 Parking Maximums Evaluation**

### Timing Considerations

- **Timeframe for Implementation**: Medium
- **Timeframe for Impacts**: Years

### Economic Considerations

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Cost</td>
<td>None</td>
</tr>
<tr>
<td>O&amp;M Cost</td>
<td>None</td>
</tr>
<tr>
<td>Fiscal Impact</td>
<td>Increases taxable property by reducing land consumed by parking.</td>
</tr>
</tbody>
</table>

### Staffing Needs

Planning staff will need to revise ordinances.

### Facilities Considerations

- **Effect on Demand**: Long term parking demand may decrease due to limited supply.
- **Effect on Supply**: Long term reduction of excessive growth of supply.

### User Impact Considerations

- **Effect on Employee Parking Availability**: Unless combined with other strategies such as remote parking, could result in less parking available for employees in the future.
- **Effect on Residential Parking Availability**: Unless combined with other strategies such as a residential parking permits, in the long term, it could increase spill-over parking in residential neighborhoods.
- **User Benefits/Customer Convenience**: Unless combined with other strategies that provide alternate means of transportation and prevent spill-over, this strategy may be perceived negatively by customers.

### Aesthetic Considerations

- **Effect on Urban Design/Streetscape**: Parking maximums support a more compact urban environment, create more attractive street-scapes and can aid historic preservation efforts by reducing the land-area needed for new construction.
APPENDIX B
Parking Strategy Evaluation Matrix
<table>
<thead>
<tr>
<th>Strategy/Technology</th>
<th>Sub-Strategy</th>
<th>Considerations</th>
<th>Timing</th>
<th>Economic Considerations</th>
<th>Facilities Considerations</th>
<th>User Impact Considerations</th>
<th>Aesthetic Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Effect on Demand</td>
<td>Effect on Functional Needs</td>
<td>Effect on Employee Parking Availability</td>
</tr>
<tr>
<td>1.1 Supply Enhancement</td>
<td>1.1.1 Reverse Angle Parking</td>
<td>Medium</td>
<td>Wears</td>
<td>Negligable</td>
<td>No additional cost</td>
<td>Additional revenue</td>
<td>Neutral</td>
</tr>
<tr>
<td></td>
<td>1.1.2 Real-time Space Availability Displays</td>
<td>Medium</td>
<td>Wears</td>
<td>Medium</td>
<td>Low additional cost</td>
<td>Neutral</td>
<td>Minor staffing</td>
</tr>
<tr>
<td></td>
<td>1.1.3 Remote Parking</td>
<td>Short</td>
<td>Months</td>
<td>High</td>
<td>Medium additional cost</td>
<td>Revenue loss</td>
<td>Minor staffing</td>
</tr>
<tr>
<td></td>
<td>1.1.4 Valet</td>
<td>Short</td>
<td>Wears</td>
<td>Medium</td>
<td>Medium additional cost</td>
<td>Revenue loss</td>
<td>Significant staffing</td>
</tr>
<tr>
<td></td>
<td>1.1.5 Tandem and Stackers</td>
<td>Short</td>
<td>Wears</td>
<td>Medium</td>
<td>Medium additional cost</td>
<td>Neutral</td>
<td>Significant staffing</td>
</tr>
<tr>
<td>1.2 Improved Enforcement</td>
<td>1.2.1 Handheld Units</td>
<td>Medium</td>
<td>Wears</td>
<td>Low</td>
<td>Cost savings</td>
<td>Additional revenue</td>
<td>Reduced staffing</td>
</tr>
<tr>
<td></td>
<td>1.2.2 Curbside Sensors</td>
<td>Medium</td>
<td>Wears</td>
<td>Medium</td>
<td>Low additional cost</td>
<td>Additional revenue</td>
<td>Neutral</td>
</tr>
<tr>
<td></td>
<td>1.2.3 Automated License Plate Reading Technology</td>
<td>Short</td>
<td>Wears</td>
<td>Low</td>
<td>Cost savings</td>
<td>Additional revenue</td>
<td>Reduced staffing</td>
</tr>
<tr>
<td>1.3 Demand Management</td>
<td>1.3.1 Demand-responsive Pricing</td>
<td>Medium</td>
<td>Months</td>
<td>No Cost</td>
<td>Low additional cost</td>
<td>Significant additional revenue</td>
<td>Minor staffing</td>
</tr>
<tr>
<td></td>
<td>1.3.2 Multipurpose Pay and Display</td>
<td>Medium</td>
<td>Wears</td>
<td>High</td>
<td>Medium additional cost</td>
<td>Significant additional revenue</td>
<td>Reduced staffing</td>
</tr>
<tr>
<td></td>
<td>1.3.3 Multipurpose By Space</td>
<td>Medium</td>
<td>Wears</td>
<td>High</td>
<td>Medium additional cost</td>
<td>Significant additional revenue</td>
<td>Reduced staffing</td>
</tr>
<tr>
<td></td>
<td>1.3.4 Pay with cellphone</td>
<td>Medium</td>
<td>Wears</td>
<td>Low</td>
<td>Medium additional cost</td>
<td>Significant additional revenue</td>
<td>Reduced staffing</td>
</tr>
<tr>
<td></td>
<td>1.3.5 Smart Cards</td>
<td>Long</td>
<td>Months</td>
<td>Medium</td>
<td>Low additional cost</td>
<td>Significant additional revenue</td>
<td>Reduced staffing</td>
</tr>
<tr>
<td></td>
<td>1.3.6 First Few Minutes Free Meter</td>
<td>Medium</td>
<td>Wears</td>
<td>Medium</td>
<td>Low additional cost</td>
<td>Significant additional revenue</td>
<td>Reduced staffing</td>
</tr>
<tr>
<td></td>
<td>1.3.7 In-car meters</td>
<td>Short</td>
<td>Months</td>
<td>Negligable</td>
<td>Low additional cost</td>
<td>Additional revenue</td>
<td>Reduced staffing</td>
</tr>
<tr>
<td>1.4 Zoning &amp; Incentives</td>
<td>1.4.1 Residential Parking Benefit Districts</td>
<td>Long</td>
<td>Years</td>
<td>Low</td>
<td>Low additional cost</td>
<td>Additional revenue</td>
<td>Minor staffing</td>
</tr>
<tr>
<td></td>
<td>1.4.2 Parking Benefit Districts</td>
<td>Long</td>
<td>Years</td>
<td>Negligable</td>
<td>Low additional cost</td>
<td>Additional revenue</td>
<td>Minor staffing</td>
</tr>
<tr>
<td></td>
<td>1.4.3 In-Lieu Fees</td>
<td>Long</td>
<td>Years</td>
<td>No Cost</td>
<td>No additional cost</td>
<td>Cost savings</td>
<td>No staffing</td>
</tr>
<tr>
<td></td>
<td>1.4.4 Parking Cash-Outs or Universal Transit Passes</td>
<td>Medium</td>
<td>Months</td>
<td>No Cost</td>
<td>No additional cost</td>
<td>Cost savings</td>
<td>Minor staffing</td>
</tr>
<tr>
<td></td>
<td>1.4.5 Unbundle Parking</td>
<td>Long</td>
<td>Years</td>
<td>No Cost</td>
<td>No additional cost</td>
<td>Additional revenue</td>
<td>No staffing</td>
</tr>
<tr>
<td></td>
<td>1.4.6 Shared Parking</td>
<td>Medium</td>
<td>Months</td>
<td>Negligable</td>
<td>No additional cost</td>
<td>Neutral</td>
<td>No staffing</td>
</tr>
<tr>
<td></td>
<td>1.4.7 Zoning/Parking Maximums</td>
<td>Long</td>
<td>Years</td>
<td>No Cost</td>
<td>No additional cost</td>
<td>Neutral</td>
<td>No staffing</td>
</tr>
</tbody>
</table>
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