



**Town of Hilton Head Island
Special Planning Commission Meeting
Wednesday, January 8, 2014
9:00 a.m. Benjamin M. Racusin Council Chambers
AGENDA**

As a Courtesy to Others Please Turn Off All Cell Phones and Pagers during the Meeting.

- 1. Call to Order**
- 2. Pledge of Allegiance to the Flag**
- 3. Roll Call**
- 4. Freedom of Information Act Compliance**
Public notification of this meeting has been published, posted, and mailed in compliance with the Freedom of Information Act and the Town of Hilton Head Island requirements.
- 5. Approval of Agenda**
- 6. Approval of Minutes** – December 18, 2013 Meeting
- 7. Appearance by Citizens on Items Unrelated to Today's Agenda**
- 8. Unfinished Business**
None
- 9. New Business**
 - a) Public Hearing**
ZMA130008: A request from Tim Wright proposing to amend the Official Zoning Map by changing the zoning designation of parcels from the IL (Light Industrial) Zoning District to the RM-4 (Low Density Residential) Zoning District. The parcels affected are identified as 147B, 0440, 0407, 0408, 0409, 0438 and 0147 on Beaufort County Tax Map 7.
Presented by: Anne Cyran
 - b) Annual Traffic Report** *Presented by: Darrin Shoemaker*
- 10. Commission Business**
- 11. Chairman's Report**
- 12. Committee Reports**
- 13. Staff Reports**
- 14. Adjournment**

Please note that a quorum of Town Council may result if four or more of their members attend this meeting.

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TOWN OF HILTON HEAD ISLAND
Planning Commission Meeting
Wednesday, December 18, 2013
3:00p.m – Benjamin M. Racusin Council Chambers

DRAFT

Commissioners Present: Chairman Gail Quick, Vice Chairman David Bennett, Tom Lennox,
Alex Brown, Judd Carstens, Terry Ennis, Bryan Hughes, Barry Taylor and
Brian Witmer

Commissioners Absent: None

Town Council Present: Bill Harkins, John McCann and George Williams

Town Staff Present: Jayme Lopko, Senior Planner & Planning Commission Coordinator
Brian Hulbert, Staff Attorney
Teri Lewis, LMO Official
Charles Cousins, Director of Community Development
Shawn Colin, Deputy Director of Community Development
Kathleen Carlin, Secretary

1. Call to Order

2. Pledge of Allegiance to the Flag

3. Roll Call

4. Freedom of Information Act Compliance

Public notification of this meeting has been published, posted, and mailed in compliance with the Freedom of Information Act and Town of Hilton Head Island requirements.

5. Approval of Agenda

The agenda was **approved** as presented by general consent.

6. Approval of Minutes

The Planning Commission **approved** the minutes of the December 4, 2013 meeting as presented by general consent.

7. Appearance by Citizens on Items Unrelated to Today's Agenda

Mr. Jim Collett, Telecommunications Task Force representative, presented a status update on the progress of improved telecommunication facilities on Hilton Head Island. The Planning Commission thanked Mr. Collett for the status update.

8. Unfinished Business

Public Hearing

LMO Amendments:

The Town of Hilton Head Island is rewriting the Land Management Ordinance (LMO). This document guides new development and redevelopment within the Town limits. The Town proposes to replace Chapters 1, 2, 3, 8 and 9 of the existing LMO with the following new chapters: Chapter 1 (General Provisions), Chapter 2 (Administration), Chapter 8 (Enforcement) and Chapter 9 (Disaster Recovery). Significant changes have been made to parts or all of the above chapters.

1 Chairman Quick stated that the public hearing for the LMO Amendments remains open from the
2 December 4, 2013 Planning Commission meeting. Due to her absence from the December 4,
3 2013 Planning Commission meeting, Chairman Quick requested that Vice Chairman Bennett
4 continue to lead the Planning Commission’s discussion of the LMO Amendments.
5

6 Vice Chairman Bennett presented a brief recap of the Planning Commission’s review of new
7 chapters: Chapter 1 (General Provisions), Chapter 2 (Administration), Chapter 8 (Enforcement)
8 and Chapter 9 (Disaster Recovery) on December 4, 2013. Following the consultant’s presentation
9 and discussion by the Planning Commission at that meeting, the Planning Commission voted to
10 forward Chapter 1 (General Provisions), Chapter 8 (Enforcement) and Chapter 9 (Disaster
11 Recovery) to Town Council with a recommendation of approval.
12

13 Due to the extensive public comments presented by Chester C. Williams, Esq., particularly related
14 to Chapter 2 (Administration), the Planning Commission voted to hold Chapter 2 back for
15 additional review. On December 4th Vice Chairman Bennett requested that Mr. Chester Williams
16 provide all of his comments to the Planning Commission in writing.
17

18 Mr. Williams has provided his comments in writing and at the staff’s request, the LMO Rewrite
19 consultant, Clarion Associates, has prepared a response to those comments. The LMO Rewrite
20 Committee met earlier today and reviewed both Mr. Williams’ comments and the consultant’s
21 response to those comments. The LMO Rewrite Committee has provided a response to those
22 comments.
23

24 Vice Chairman Bennett then invited Mr. Chester Williams to present his comments to the Planning
25 Commission. Chester C. Williams, Esq., presented statements on the following topics. Mr. Craig
26 Richardson, Clarion Associates, responded to each of Mr. Williams’ comments. Comments by the
27 Planning Commission and Ms. Teri Lewis, if any, follow each of the items.
28

29 **(1) Page 1-2 – Section 16-1-104.B – Development Activities Constituting Development:**

30 *Subsections a-c do not carry forward language that arguably works to a landowner’s benefit.*

31 **Consultant’s Recommendation:** As stated at the last public hearing, the omitted language is
32 vague, general, and discretionary (that is why it was not carried forward). We have no objection
33 to adding it back in.

34 **(2) Pages 1-4 and A-1 – Section 16-1-104.G and Appendix A Section A: Why doesn’t LMO**
35 *include provisions for issuance of a zoning permit by the Official?*

36 **Consultant’s Recommendation:** No change – certification of approval as required by statute
37 continues to be provided by Certificate of Compliance (Sec. 16-2-103.P).

38 **(3) Page 1-8 – Section 16-1-108.D – Nonconformities:** No use, development, or structure
39 established before the town’s original enactment of the LMO in 1987 is legally conforming
40 under Article 10’s definition of “legal nonconformity.”

41 **Recommend:** No change – Statement is not accurate. Development legally established before
42 LMO and not compliant with LMO is clearly defined as nonconforming.
43

44 **(4) Page 1-10 – Section 16-1-108.H – Development with Prior Permits and Development**
45 **Approvals:** *Should state that nothing in the LMO prohibits the holder of a permit/approval*

1 issued under the prior LMO from seeking to revise the permit/approval to take advantage of the
2 new LMO.

3 **Recommend:** Revise to add such wording.

- 4 (5) **Pages 2-1 and 2-7 through 2-10 – Sections 16-2-101, Table 16-2-102, Section 16-2-102.E,**
5 **Table 16-2-102.F.2, and Footnote 39 – Public hearings generally, and BZA appeal hearings**
6 **as public hearings in particular:** *Subjecting BZA appeals to public hearings is contrary to the*
7 *long-established practice of the Town and not required by statutes (or for variance and special*
8 *exception applications). BZA rules of procedure prohibit public comments on appeals.*

9 **Recommend:** Revise provisions regarding BZA appeals to refer to hearings, not public hearings.

- 10 (6) **Pages 2-4 through 2-6, 2-28, and 2-31 – Section 16-2-102.C, Footnotes 30 and 32, and**
11 **Sections 16-2-102.D, 16-2-103.F.3.c.ii, 16-2-103.G.4.c.ii, and 16-2-103.G.4.c.iii – Application**
12 **Submittal, and Staff Review and Action:** *Statutorily required review deadlines for subdivision*
13 *and land development applications must be in the LMO, not an administrative manual. Removal*
14 *of a determination of application completeness process leaves an applicant no way to determine*
15 *when the statutory review deadlines start to run.*

16 **Recommend:** No change – The statutory review deadlines are in review procedures for
17 Subdivision Review and Development Plan Review. They expressly state when the time period
18 starts (when the application is submitted) – see p. 2-28 for Subdivision Reviews and p. 2-30 and
19 31 for Development Plan Reviews. If that is before they are complete, then the review period
20 clearly complies with the statute.

- 21 (7) **Page 2-4 – Section 16-2-102.C.1 – Authority to Submit Applications:**
22 *Provisions stating who must sign development applications are not clear and unfair. The term*
23 *“owner of record” is not defined. Co-owners of heirs properties shouldn’t be given more*
24 *favorable treatment than other multiple-owners, and should be determined from deeds records*
25 *rather than tax records. Suggest authorizing co-owners owning a majority of the interest in the*
26 *property to file applications. Applications involving condominium common areas would have to*
27 *be signed by all condominium owners. Is a mortgage holder a person with a recognized property*
28 *interest, and have the right to file an application over the objection of fee interest owners?*

29 **Recommend:** Revise to refer to “owner” rather than “owner of record” and to require
30 applications to be submitted by the property owner(s) or person authorized in writing by the
31 owner(s) – leaving it up to multiple owners to obtain the consent of all owners.

- 32 (8) **Page 2-7 – Section 16-2-102.E.2.a.iii – General Notice Requirements:** *It limits the right to*
33 *challenge an approval obtained after defective notice.*

34 **Recommend:** Revise to better reflect the limited intent to cut off challenges by persons who
35 refused to accept the notice, or who were vacation when notices were provided, etc., versus
36 challenges due to the notice being delivered to the wrong address.

- 37 (9) **Page 2-8 – Table 16-2-102.F.2 – Public Hearing Notice Requirements:** *Statutes require a 30-*
38 *day notice of amendments to land development regulations.*

39 **Recommend:** Agree – Revise to change the notice requirement for all text amendments from 15
40 to 30 days.

- 41 (10) **Page 2-10 – Section 16-2-102.E.2.e: Notice Contents:** *Content requirements for various types of*
42 *notices don’t match.*

1 **Recommend:** Revise notice requirements for published and posted notices to add identification
2 of subject site location and statement that interested persons may appear as well as speak at
3 hearing.

- 4 **(11) Page 2-10 – Section 12-2-102.E.3 – Request to Defer Public Hearing:** *Should be expanded to*
5 *address deferral of non-public hearing matters; should require approval of request for deferral*
6 *or set standards for such approval.*

7 **Recommend:** Continue to apply only to deferral of public hearings – where substantial reliance
8 on public notice is involved. Revise to authorize approval upon “good cause shown” – a general
9 standard familiar to courts and reflecting the many potentially justifiable reasons for deferral
10 (e.g., hurricane, illness, requested new information, etc.)

11 Staff will cover the deferral of non-public hearing matters within each board or commission’s
12 Rules of Procedure.

- 13 **(12) Page 2-12- Section 16-2-102.G.1.b- Remand:** *Allow remand to be applied to other than Town*
14 *staff; allow Town Council to remand to Planning Commission.*

15 **Recommend:** Revise to allow remand to staff or Planning Commission.

- 16 **(13) Pages 2-13, 2-63, 2-64 Appeals to BZA:** *The appeal provisions should track Section 6-29-*
17 *88(A)(2) of state zoning statute that says BZA has the power to hear and decide appeals where it*
18 *is alleged there is error in an order, requirement, decision, or determination made by an*
19 *administrative official in the enforcement of the zoning ordinance.”*

20 **Recommend:** Needs to be discussed further with Town’s legal staff.

- 21 **(14) Page 2-15 Section 16-2-103.K.2.b- Extension of Time Period:** *Objects to Official being able to*
22 *extend time period for development approval for up to but no longer than one year as contrary to*
23 *Vested Rights Act (§6-29-1510 et seq.).*

24 **Recommend:** No change. Sec. 16-2-103.K.2.b pertains only to approvals not subject to the
25 Vested Rights Act (i.e., not an approval of a site specific development plan).

26 Mr. Chet Williams has indicated that he wanted to review this and possibly make additional
27 comments. Mr. Williams was advised to do so in a timely manner.

- 28 **(15) Page 2-16-Section 16-2-103.B.2.d—Text Amendment:** *Suggests text amendment of permitted*
29 *uses should be treated as rezoning.*

30 **Recommend:** No change.

- 31 **(16) Pages 2-16 through 2-20 Text and Map Amendment Procedure:** *Section 6-29-760(A) of*
32 *zoning statute says “No change in or departure from the text or maps as recommended by the*
33 *local planning commission may be made pursuant to the hearing unless the change or departure*
34 *be first submitted to the planning commission for review and recommendation.” Procedures*
35 *don’t take this into account.*

36 **Recommend:** Revise decision-making steps to add wording mirroring statutory language.

- 37 **(17) Pages 2-16, 2-19, and 2-22 – Legal challenges/appeals to Text and Map Amendments, and**
38 **PUD Master Plans:** *Should make it clear that challenge or appeal is available in accordance*
39 *with state law.*

40 **Recommend:** Agree: make change.

- 41 **(18) Page 2-23- Footnote 65 and Section 16-2-103.D.8.a- Minor Deviations from Approved**
42 **Master Plans for telecommunications towers:** *Stealth telecommunication tower is not defined.*

- 1 **Recommend:** Delete “stealth” from footnote (inadvertently added).
- 2 **(19) Pages 2-23 to 2-24- Section 16-2-103.D.8.a.vi- Monopole telecommunications tower:**
3 *Provisions include no standards for DRB decisions. This is an illegal delegation of the Town’s*
4 *zoning authority to private parties.*
- 5 **Recommend:** This provision carries forward provisions added to the current LMO in July 2012.
6 We share Mr. Williams’ concerns about the lack of guidance to the DRB review and the
7 delegation of approval authority to private parties. We recommend that the section be revised to
8 address these concerns, after further discussion with Town legal staff. One option is to subject
9 construction of a new telecommunications towers on land not designated for single family use to
10 provisions similar to those applied to changes in major infrastructure features (in paragraph iii).
11 Other options may be explored as well.
- 12 Staff will give this item additional consideration.
- 13 **(20) Pages 2-25, 2-61, and 2-66 – Appeals of Decisions on Special Exceptions, Variances, and**
14 **Appeals to BZA:** *Should make it clear that appeal from decision of BZA is available in*
15 *accordance with state law.*
- 16 **Recommend:** Agree; make change.
- 17 **(21) Page 2-27- Section 16-2-103.F.2.b.i –Minor subdivision:** *Current definition of minor*
18 *subdivision in LMO needs to be carried forward.*
- 19 **Recommend:** Agree; make change.
- 20 **(22) Page 2-28-Section 16-2-103.F.5- Effect of Subdivision Approval:** *Provision doesn’t accurately*
21 *reflect current practices, which requires a subdivision plat to be stamped for recording before it*
22 *can be recorded. Not stamped until all infrastructure is completed. Should modify language to*
23 *bring it into line with current practice.*
- 24 **Recommend:** Several LMO Rewrite Committee members recommend reinstating the bonding
25 option to completion of infrastructure. The committee suggests the Planning Commission discuss
26 this further and make a recommendation related to this issue.
- 27 Add back in bonding provisions from current LMO – update as needed to reflect desires of the
28 Planning Commission to have a bond that was redeemable, creditworthy and the appropriate
29 amount.
- 30 **(23) Page 2-37-Sections 16-2-103.I.4.a.vii and 16-2-103.I.4.b.vii- Appeals of Decisions of Major**
31 **Corridor Review and Major Sign Permits:** *Should make it clear that appeal from decision of*
32 *DRB is available in accordance with state law.*
- 33 **Recommend:** Agree; make change.
- 34 **(24) Pages 2-38 and 2-69- Sections 16-2-103.I.5 and 16-2-103.W.4.c-Design Guide:** *Who will*
35 *determine what is in the “Hilton Head Island Design Guide”?*
- 36 **Recommend:** Revise Appendix A to authorize DRB to prepare and revise a design manual,
37 subject to adoption by the Town Council.
- 38 **(25) Pages 2-38 through 2-40- Traffic Impact Analysis Plans:** *Regulations do not establish to*
39 *whom and when a TIA plan applies; additionally, there is no explanation of the effect of the*
40 *approval, or who can appeal it.*
- 41 **Recommend:** Replace with carried forward procedures in Ch. 3. Art. XIII of current LMO,
42 which have the missing information.

- 1 (26) **Pages 2-49, 2-54, and 2-68- Appeals of Decisions on Street Names, Public Project Review,**
2 **and Appeals to the Planning Commission:** *Should make it clear that appeal from the above*
3 *decisions is available in accordance with state law.*
- 4 **Recommend:** Agree: make change.
- 5 (27) **Pages 2-52, 2-64 – Appeals of Decisions of Certificates of Compliance:** *Procedure currently*
6 *provides for appeal to BZA. Should be appealable to Planning Commission because Certificate*
7 *of Compliance is form of land development.*
- 8 **Recommend:** Revise if necessary after further discussion with Town legal staff.
- 9 (28) **Page 2-53- Public Hearing on Public Project Reviews:** *Even though state statutes do not*
10 *require public project review be the subject of a public hearing, Town has always done it this*
11 *way. This should not be changed.*
- 12 **Recommend:** Revise to require public hearings for public project reviews, carrying forward
13 current notice requirements related to public projects.
- 14 (29) **Pages 2-54 through 2-56 – Written Interpretations:** *Track language of statute about what*
15 *should be subject to a written interpretation.*
- 16 **Recommend:** No change, except add subsection to 16-2-103 R. 2 that states that request for
17 written interpretations can also be requested on a development approval or permit.
- 18 Ms. Lewis stated that we would consult our legal department on this item.
- 19 (30) **Pages 2-57 through 2-60 Administrative Adjustments:** *Believes authorization under zoning*
20 *statute is not available or suspect.*
- 21 **Recommend:** No change.
- 22 (31) **Pages 2-60 through 2-63 – Variances:** *State statute only allows variances from the zoning*
23 *ordinance (Section 6-29-800(A)(2). Current variance section authorizes variances from*
24 *“development and design standards.” Some of these provisions involve land development*
25 *standards. Section 16-2-10.3T.4.a.i refers to variance granted by the appropriate decision-*
26 *making body, and only BZA can grant variance.*
- 27 **Recommend:** Modify language in Section 16-2-10.3T.4.a.i to state BZA makes decisions on
28 variances. Make it clear in Section 16-2.T.c. that a variance can be granted only from the
29 following standards in Chapter 16-5: Development and Design Standards: adjacent setback and
30 buffer standards; open space standards; parking and loading standards; fence and wall standards;
31 single-family residential compatibility standards.¹
- 32 Make it clear in Section 16-2.T.d. that a variance can be granted only from the specimen tree and
33 wetland buffer standards in Chapter 16-6: Natural Resource Protection.
- 34 (32) **Pages 2-63 through 2-66- Section 16-2-103.U-Appeals of the Official’s Decision to the BZA:**
35 *The appeal provisions should track Section 6-29-88(A)(2) of state zoning statute that says BZA*
36 *has the power to hear and decide appeals where it is alleged there is error in an order,*
37 *requirement, decision, or determination made by an administrative official in the enforcement of*
38 *the zoning ordinance.”*
- 39 **Recommend:** Revise if necessary after further discussion with Town legal staff.

1 (33) **Pages 2-663 through 2-68- Section 16-2-103.V-Appeals to the Planning Commission:**
2 *Concerned that language of who can appeal a decision does not include “party in interest,”*
3 *which Section 6-29 1150 (C) provides can make an appeal.*

4 **Recommend:** Agree. Change language in Section 16-2-103.V.2 to make it clear “any party in
5 interest” has the right to make an appeal to the Planning Commission.

6 (34) **Page 2-70- Section 16-2-103.W.4.g- Appeals of Decisions on Appeals to the DRB:** *Should*
7 *make it clear that appeal from decision of DRB is available in accordance with state law.*

8 **Recommend:** Agree; make change.

9 (35) **Page 8-3-Section 16-8-105.C.3- Notice of Violation:** *This section refers to “record owner, but*
10 *term is not defined.*

11 **Recommend:** Revise to use “owner” rather than “record owner.”

12 (36) **Page 8-4-Section 16-8-108- Town Maintenance of Common Open Space:** *Believe it would be*
13 *better to have Planning Commission serve as the public body to hold the hearing referred to in*
14 *Section 16-8-108, as Town Council is otherwise not involved in overseeing administration and*
15 *enforcement of LMO, and Planning Commission is.*

16 **Recommend:** No change. The proceedings can result in the Town taking over maintenance of
17 common open space, which typically involves Town expenditures that only the Town Council
18 can authorize.

19 This completed the Planning Commission’s review of the 36 written items prepared and
20 presented by Chester C. Williams, Esq. Vice Chairman Bennett stated his appreciation to Mr.
21 Chet Williams for his input and participation. Vice Chairman Bennett requested additional
22 public comments on Chapter 2 of the proposed LMO and none were received. Vice Chairman
23 Bennett then presented comments regarding Sec. 2-16-2-10312b. The current language seems to
24 circumvent the Federal government’s language and control over wetlands. The legality of this
25 item should be reviewed. Ms. Teri Lewis stated that the staff will review this item.

26 Mr. Tom Crews, Chairman of the LMO Rewrite Committee, presented statements with regard to
27 the 66 plus meetings held so far by the LMO Rewrite Committee. The committee and staff have
28 worked diligently over the past two and one-half years along with the consultant to craft the new
29 Land Management Ordinance. Chairman Quick stated her appreciation to the LMO Rewrite
30 Committee and the staff for all of their hard work.

31 Following final comments by the Planning Commission, Chairman Quick stated that the public
32 hearing for Chapter 2 of the new LMO is now closed. Chairman Quick stated her appreciation to
33 Mr. Chet Williams, the LMO Rewrite Committee and the staff for all of their hard work.

34
35 Following final comments by the Planning Commission, Vice Chairman Bennett recommended
36 that Chapter 2 be remanded back to staff including all of the comments made today. The final
37 Chapter 2 document will return to the Planning Commission for approval. Chairman Quick then
38 requested that a motion for Chapter 2 be made.

39
40 Commissioner Ennis made a **motion** that the Planning Commission take all of the comments
41 received today and remand those back to redraft Chapter 2 in final form for additional review by
42 the Planning Commission. Chairman Quick **seconded** the motion and the motion **passed** with a
43 vote of 9-0-0.

44 Mr. Chet Williams stated that another public hearing should be planned for the Planning
45 Commission’s final review of Chapter 2 due to the substantial changes that are anticipated.

1 Mr. Charles Cousins and Brian Hulbert, Staff Attorney, presented statements in agreement.
2 Another public hearing will be scheduled when Chapter 2 returns to the Planning Commission for
3 final review.
4

5 **9. New Business**

6 None
7

8 **10. Commission Business**

9 None
10

11 **11. Chairman's Report**

12 None
13

14 **12. Committee Reports**

15 None
16

17 **13. Staff Reports**

18 Mrs. Lopko presented comments regarding the Fourth Quarter Report. The next Planning
19 Commission meeting will be held on January 8, 2014 at 9:00a.m.
20

21 **14. Adjournment**

22 The meeting was adjourned at 4:40p.m.
23

24 Submitted By:

Approved By:

25
26 _____
27 Kathleen Carlin
28 Secretary
29

David Bennett
Acting Chairman



TOWN OF HILTON HEAD ISLAND COMMUNITY DEVELOPMENT DEPARTMENT

One Town Center Court | Hilton Head Island, SC 29928 | 843-341-4757 | FAX 843-842-8908

STAFF REPORT ZONING MAP AMENDMENT

Application Number	Name of Project	Public Hearing Date
ZMA130008	The Reserve on Old House Creek	January 8, 2014

Parcel Data	Owner Parcel 147B	Owner & Applicant Parcels 438, 147 & 440
<p><u>Tax Map ID:</u> Map 7, Parcels 147B, 438, 147 & 440</p> <p><u>Address:</u> 330 Spanish Wells Road and non-addressed parcels</p> <p><u>Parcel 147B:</u> 2.4 acres <u>Parcel 438:</u> 0.4 acres <u>Parcel 147:</u> 3.2 acres <u>Parcel 440:</u> 0.9 acres</p>	<p>Town of Hilton Head Island One Town Center Court Hilton Head Island SC 29928</p>	<p>Tim Wright The Paddocks, LLC PO Box 2210 Bluffton SC 29910</p>

Existing	Proposed
<p><u>Zoning Districts</u> IL (Light Industrial)</p> <p><u>Applicable Overlay District</u> COR (Corridor Overlay District)</p> <p><u>Maximum Allowed Density</u> 12,000 square feet of Warehouse per acre 10,000 square feet of Other Uses per acre</p> <p><u>Maximum Allowed Height</u> 35 feet</p> <p><u>Maximum Impervious Coverage</u> 65%</p>	<p><u>Zoning Districts</u> RM-4 (Low Density Residential)</p> <p><u>Applicable Overlay District</u> COR (Corridor Overlay District)</p> <p><u>Maximum Allowed Density</u> 4 Residential Density Units per acre 6,000 Nonresidential square feet per acre</p> <p><u>Maximum Allowed Height</u> 35 feet</p> <p><u>Maximum Impervious Coverage</u> 35%</p>

<u>Minimum Open Space</u> 25% <u>By Right and Conditional Uses (Attachment D)</u>	<u>Minimum Open Space</u> 65% up to 4 Density Units per acre 55% over 4 Density Units per acre 55% nonresidential <u>By Right and Conditional Uses (Attachment D)</u>
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Application Summary

This application is a request from Tim Wright, the property owner, to amend the Official Zoning Map by changing the zoning designation of four parcels from the IL (Light Industrial) Zoning District to the RM-4 (Low Density Residential) Zoning District. The parcels are further identified as Parcels 147B, 438, 147 & 440 on Beaufort County Tax Map 7.

Staff Recommendation

Staff recommends that the Planning Commission find this application to be consistent with the Town’s Comprehensive Plan and serves to carry out the purposes of the LMO, based on those Findings of Facts and Conclusions of Law as determined by the LMO Official and enclosed herein.

Background

Tim Wright is proposing to rezone the subject parcels and combine them with adjacent parcels in the RM-4 Zoning District to create a residential development on Old House Creek.

The Hilton Head Public Service District recently constructed a lift station in the corner of Parcel 147B, but the parcel is otherwise undeveloped. Santee Cooper-owned power lines are located on Parcels 438, 147 and 440. Parcel 147 also contains an unimproved access road.

The maximum allowed density, maximum impervious coverage, minimum open space, setbacks and buffers, and permitted uses would change as a result of the proposed rezoning. The allowed density would change from 12,000 square feet of warehouse or 10,000 square feet of other nonresidential development per acre to 6,000 feet of nonresidential development or four residential density units per acre. The maximum impervious coverage would decrease by about half and the minimum open space would more than double as a result of the rezoning.

The subject parcels are surrounded by parcels in the IL and RM-4 Zoning Districts. The adjacent use setbacks will decrease from 30 feet to 20 feet where the subject parcels are adjacent to parcels in the RM-4 Zoning District. The adjacent use setbacks will increase from 20 feet to 30 feet where the subject parcels are adjacent to parcels in the IL Zoning District. The adjacent use buffers will decrease from 25 feet to 20 feet where the subject parcels are adjacent to parcels in the RM-4 Zoning District. The adjacent use buffers will increase from 20 feet to 25 feet where the subject parcels are adjacent to parcels in the IL Zoning District. The adjacent street setback and buffer will remain the same for parcels with frontage on Spanish Wells Road.

The permitted uses would change considerably as a result of rezoning from IL to RM-4. (See Attachment D). Permitted uses will change from primarily commercial and industrial uses to primarily residential and public and civic uses.

Applicant's Grounds for ZMA

The applicant states this application would allow for the subject parcels to be combined with adjacent parcels in the RM-4 Zoning District and developed into an approximately 39 lot residential subdivision, which would be a much needed upscale housing project in the Ward I area. Without the combination of the parcels, most of the subject parcels would be too small to be developed and the adjacent parcels on Old House Creek would remain undeveloped due to inadequate street access.

The applicant states the proposed development would be well separated from adjacent light industrial uses by a 50 foot street right of way, adjacent use setbacks and a drainage easement on Parcel 147B.

The applicant states Parcels 438 and 440 are not marketable because they are too small to be developed. Parcel 147 is large, but is too narrow to be developed and therefore it isn't marketable. In addition, all of the parcels are covered by utility easements that allow no permanent structures on the parcels. If these parcels are combined with larger adjacent parcels, they could provide access and a storage area for a proposed residential development.

The applicant states Parcel 147B has questionable marketability due to the 50 foot wide drainage easement running from the front to the back of the parcel and the lift station in the corner of the parcel.

Summary of Facts and Conclusions of Law

Findings of Fact:

1. Notice of the Application was published in the Island Packet on November 24, 2013 as set forth in LMO (Land Management Ordinance) Sections 16-3-110 and 16-3-111.
2. Notice of the Application was posted and mailed as set forth in LMO Sections 16-3-110 and 16-3-111.
3. A public hearing will be held on January 8, 2014 as set forth in LMO Section 16-3-1504A.
4. The Commission has authority to render their decision reached here in LMO Section 16-3-1504.

Conclusion of Law:

1. The application, notice requirements, and public hearing comply with the legal requirements as set forth in LMO Sections 16-3-110, 16-3-111 and 16-3-1504.

As set forth in Section 16-3-1505, Zoning Map Amendment Review Criteria, Planning Staff has based its recommendation on analysis of the following criteria:

Summary of Facts and Conclusions of Law

Criteria 1: Consistency (or lack thereof) with the Comprehensive Plan (LMO Section 16-3-1505A):

Findings of Fact:

The Comprehensive Plan addresses this application in the following areas:

Natural Resources Element

Implication for the Comprehensive Plan – Water Quality and Quantity

The data collected on the local, regional and national scale suggests that the current development strategies can have a negative impact on water quality. The Town needs to continue to make water quality and quantity a high priority by encouraging water conservation, reducing impervious surfaces, encouraging environmentally sound drainage and flood control practices, as well as sustainably manage stormwater for small and large scale development.

Goal 3.3 - Protect Quality of Life through Environmental Preservation

D. The goal is to preserve open space (including improvement and enhancement of existing).

Land Use Element

Goal 8.1 - Existing Land Use

A. The goal is to have an appropriate mix of land uses to meet the needs of existing and future populations.

Goal 8.4 - Existing Zoning Allocation

A. An appropriate mix of land uses to accommodate permanent and seasonal populations and existing market demands is important to sustain the Town's high quality of life and should be considered when amending the Town's Official Zoning Map.

Goal 8.5 – Land Use Per Capita

A. The goal is to have an appropriate mix and availability of land uses to meet the needs of existing and future populations.

Goal 8.10 - Zoning Changes

A. The goal is to provide appropriate modifications to the Zoning designations to meet market demands while maintaining the character of the Island.

Conclusions of Law:

1. Staff concludes that this application is consistent with the Comprehensive Plan, as described in the Natural Resources and Land Use Elements as set forth in LMO Section 16-3-1505A.
2. The RM-4 zoning district allows less impervious surface and requires more open space in development which will provide more protection of natural resources and water quality measures in any proposed development.
3. This application would add RM-4 parcels to an area mixed with RM-4 and IL zoning. The parcels proposed for rezoning will provide for access to existing RM-4 parcels and enable their development into a subdivision. This will provide single family housing in the area to meet the needs of the population while still maintaining the mixed use character of the neighborhood.

Summary of Facts and Conclusions of Law

Criteria 2: Compatibility with the present zoning and conforming uses of nearby property and with the character of the neighborhood (LMO Section 16-3-1505B):

Findings of Fact:

1. Surrounding parcels are located in the RM-4 or IL Zoning Districts.
2. The parcels to the north, west and east of the subject parcels that are developed contain single family residences.
3. The parcels directly to the south of the subject parcels are used for storage.
4. The parcels further south of the subject parcels are developed into a light industrial park which contains contractors' offices, auto repair, wholesale sales and a taxicab service.
5. The subject parcels are in an area where properties in the RM-4 Zoning District are adjacent to properties in the IL Zoning District.
6. There are no nonconforming uses on the subject parcels.

Conclusions of Law:

1. Staff concludes that the subject parcels are compatible with the present zoning, the conforming uses of nearby property and the character of the neighborhood as set forth in LMO Section 16-3-1505B.
2. The subject parcels are surrounded on three sides by parcels in the RM-4 Zoning District and the rezoning will make the subject parcels more compatible with the surrounding residential uses.
3. Any existing incompatibility between parcels in the RM-4 and IL Zoning Districts will not be increased because the parcels in the IL Zoning District with existing industrial uses will remain adjacent to parcels in the RM-4 Zoning District.
4. Since there are no nonconforming uses on the subject parcels, the proposed rezoning will not affect the parcels' compliance with the Land Management Ordinance.

Summary of Facts and Conclusions of Law

Criteria 3: Suitability of the property affected by the amendment for uses permitted by the district that would be made applicable by the proposed amendment (LMO Section 16-3-1505C):

Findings of Fact:

1. The uses permitted in the RM-4 Zoning District are generally residential and public/civic uses. Minor utilities are also permitted.
2. Parcel 147B is an undeveloped, 2.4 acre site with frontage on Spanish Wells Road.
3. Parcels 438 and 440 are both less than one acre in size and lack direct access to an improved street.
4. Parcel 147 is 3.2 acres but it is very narrow.

Conclusions of Law:

1. Staff concludes that the subject parcels are suitable for the uses that would be permitted by the proposed rezoning as set forth in LMO Section 16-3-1505C.
2. Parcel 147B could support residential or public/civic development due to its size and access to a minor arterial.
3. Parcels 438 and 440 lack direct access to an improved street. Parcels 438 and 440 are too small

and Parcel 147 is oddly shaped to develop on their own, but if they are combined with larger adjacent parcels, they could be developed for residential and public/civic uses.

Summary of Facts and Conclusions of Law

Criteria 4: Suitability of the property affected by the amendment for uses permitted by the district applicable to the property at the time of the proposed amendment (LMO Section 16-3-1505D):

Findings of Fact:

1. The subject parcels are in the IL Zoning District.
2. Permitted uses in the IL Zoning District are primarily commercial and industrial uses. Minor utilities are also a permitted use.
3. Though undeveloped apart from a lift station, Parcel 147B has frontage on Spanish Wells Road and is about the same size as adjacent parcels developed for light industrial uses.
4. Parcel 438 is too small to be developed for any use other than the minor utility it contains and it lacks direct access to an improved street.
5. Parcel 147 is too narrow to be developed for any use other than the road and minor utility it contains.
6. Parcel 440 is too small to be developed for most light industrial uses and it lacks direct access to an improved street.

Conclusions of Law:

1. Staff concludes that Parcel 147B is suitable for the uses permitted in the IL Zoning District as set forth in LMO Section 16-3-1505D because it is large enough to reasonably develop for many of the uses in the IL Zoning District.
2. Staff concludes that Parcels 438, 147 and 440 are not suitable for the uses permitted in the IL Zoning District as set forth in LMO Section 16-3-1505D because they are too small or oddly shaped to reasonably develop for most uses in the IL Zoning District. Parcels 438 and 440 also lack direct access to an improved street.

Summary of Facts and Conclusions of Law

Criteria 5: Marketability of the property affected by the amendment for uses permitted by the district applicable to the property at the time of the proposed amendment (LMO Section 16-3-1505E):

Findings of Fact:

1. Parcel 147B is an undeveloped 2.4 acre site with frontage on Spanish Wells Road.
2. Parcels 438 and 440 are developed with minor utilities, are less than one acre in size and lack direct access to an improved street.
3. Parcel 147 is developed with a minor utility, and is 3.2 acres in size but is very narrow.

Conclusions of Law:

1. Staff concludes that the marketability of the parcels could be improved as set forth in LMO Section 16-3-1505E.
2. The marketability of Parcel 147B could be affected by the proposed rezoning.
3. Based on the size and accessibility to Parcels 438, 147 and 440, they cannot be reasonably developed for industrial uses, and therefore the proposed rezoning would increase their marketability.

Summary of Facts and Conclusions of Law

Criteria 6: Availability of sewer, water and stormwater facilities generally suitable and adequate for the proposed use (LMO Section 16-3-1505F):

Findings of Fact:

1. The subject parcels have adequate water and sewer service.
2. When the parcels are developed, a letter from the Hilton Head Island Public Service District confirming their ability to meet the water and sewer demands of the development would be required as part of the application review.
3. When the parcels are developed, the Town’s engineering staff would confirm as part of the application review that the site would be able to meet the LMO’s stormwater performance standards.

Conclusion of Law:

1. Staff concludes that the property has adequate access to water and sewer facilities and will be required to have stormwater facilities suitable for the proposed uses as set forth in LMO Section 16-3-1505F.

LMO Official Determination

Staff determines that this application is consistent with the Comprehensive Plan and does serve to carry out the purposes of the LMO as based on the Findings of Fact and Conclusions of Law detailed in this report.

Note: If the proposed amendment is approved by Town Council, such action shall be by ordinance to amend the Official Zoning Map. If it is denied by Town Council, such action shall be by resolution.

PREPARED BY:

AC

Anne Cyran, AICP
Senior Planner

December 12, 2013

DATE

REVIEWED BY:

TBL

Teri B. Lewis, AICP
LMO Official

December 16, 2013

DATE

REVIEWED BY:

JL

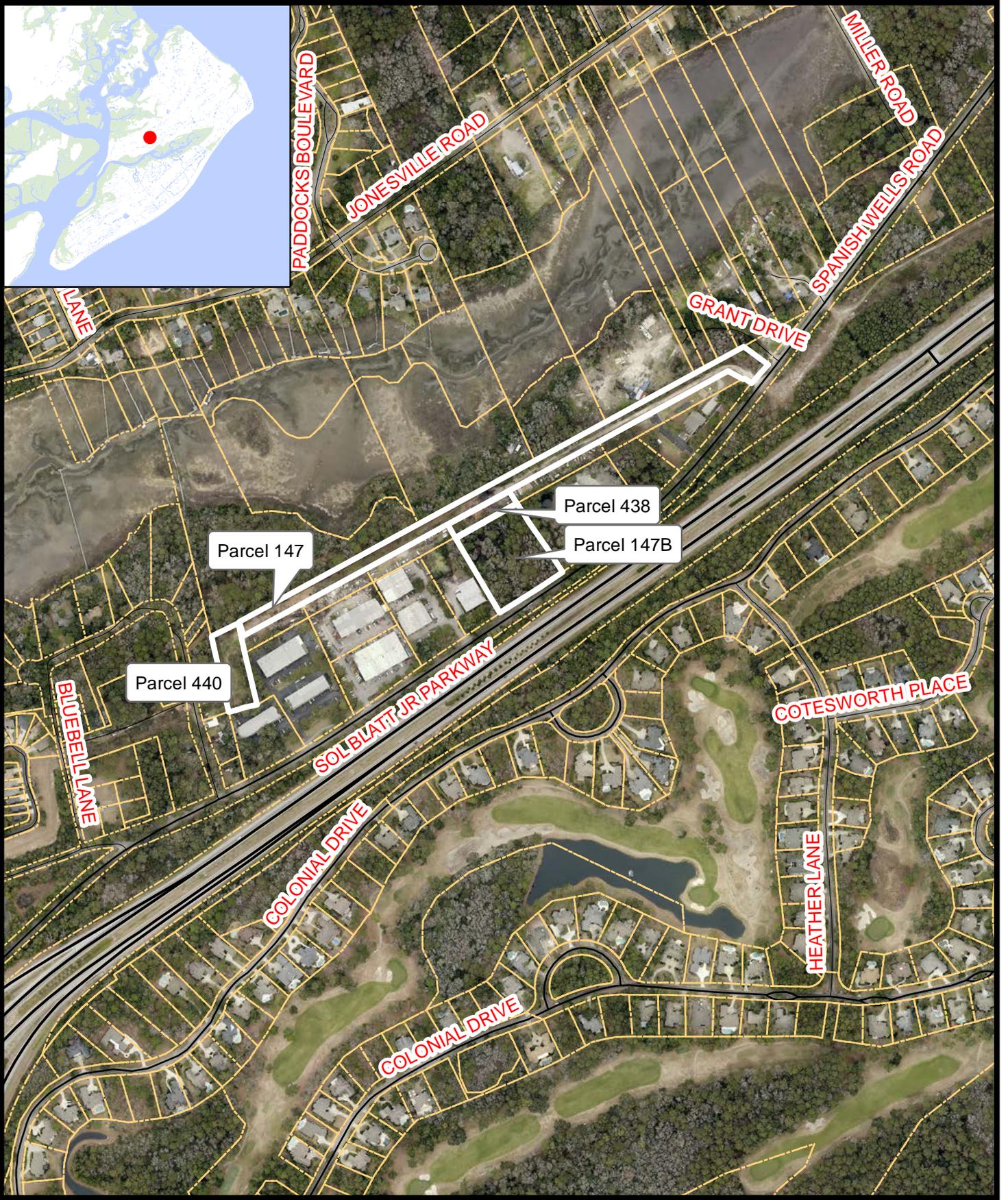
Jayme Lopko, AICP
Senior Planner & Planning Commission Board Coordinator

December 16, 2013

DATE

Attachments:

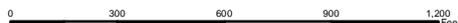
- A) Aerial Photo
- B) Zoning Map
- C) Applicant's Narrative
- D) By Right and Conditional Uses



Town of Hilton Head Island
 One Town Center Court
 Hilton Head Island, SC 29928
 (843) 341-6000

The Reserve at Old House Creek
 ZMA130008

Attachment A - Aerial Photo



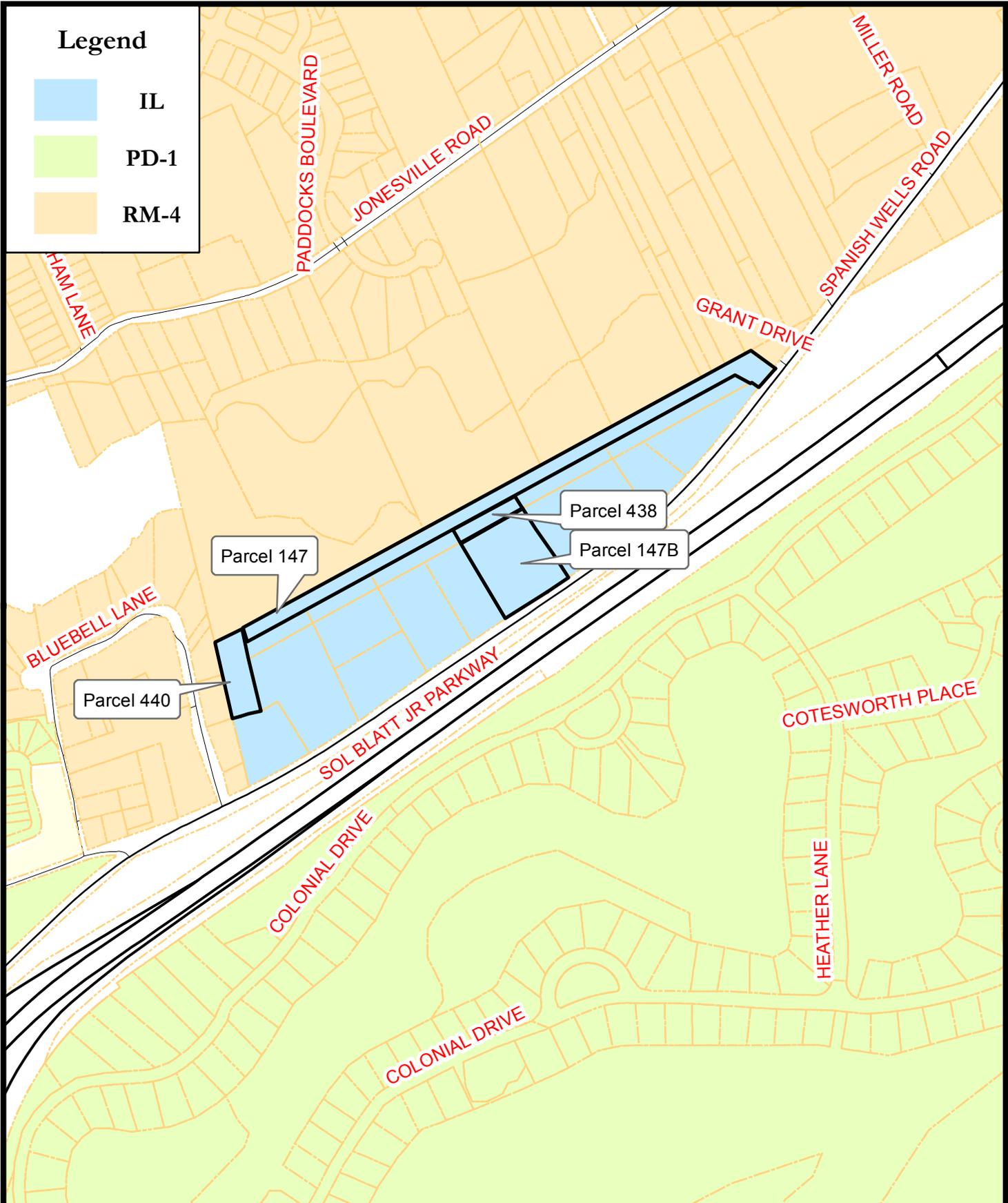
1 inch = 535 feet



This information has been compiled from a variety of unverified general sources at various times and as such is intended to be used only as a guide. The Town of Hilton Head Island assumes no liability for its accuracy or state of completion.

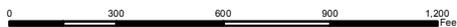
Legend

- IL
- PD-1
- RM-4



Town of Hilton Head Island
 One Town Center Court
 Hilton Head Island, SC 29928
 (843) 341-6000

The Reserve at Old House Creek
 ZMA130008
 Attachment B - Zoning Map



1 inch = 535 feet



This information has been compiled from a variety of unverified general sources at various times and as such is intended to be used only as a guide. The Town of Hilton Head Island assumes no liability for its accuracy or state of completion.

Paddocks, LLC

P.O. Box 2210- Bluffton, SC 29910 / 843.645.4446 / TW81551@aol.com

Re: Re-Zoning Request for Parcel(s) R510 007 000 0438, R510 007 000 0147 & R510 007 000 ~~0098~~⁰⁴⁴⁰

In making recommendation regarding amendments to the zoning map, the commission shall consider and make findings on the following matters regarding the proposed amendment:

- A. By allowing rezoning from OCIL(Office/ Light Commercial) to RM-4 of the above referenced parcel(s), it will allow a proposed 50' 'right-of-way' street to the proposed 39+/- lot 'single family' development. This will allow a much needed upscale housing project in the Ward I area.
- B. The proposed street will not interfere with the existing Spanish Wells Commercial Park. A 65' buffer will exist between the eastern street 'right-of-way' and the rear boundary line of the Commercial Park. The proposed subdivision will have a 20' setback tree buffer from edge of power line and a 50' street 'right-of-way'. This will create a 135' +/- separation from the western rear boundary of the Commercial Park, and future homes in the proposed 'single family' development.
- C. A dirt/gravel road exists in this 50' western section of 50' by 1,215' section of the power line 'right-of-way', which was allowed Central Electric Coop on May 13th, 1996 to Jarvis Creek, LLC, now named Paddocks, LLC.
- D. Streets and drives are the only permitted uses for this area.
- E. The marketability of the property is "zero". The restriction of the power line 'right-of-way' limits to no permanent structures allowed in 'right-of-way' only temporary equipment storage and roadways.
- F. Water and sewer is available for this area.

Paddocks, LLC

P.O. Box 2210- Bluffton, SC 29910 / 843.645.4446 / TW81551@aol.com

Re: Rezoning Request for R510 007 000 0147B (2.40 acre parcel- Spanish Wells Road)

In making recommendations regarding amendments to the zoning map, the commission shall consider and make findings on the following matters regarding the proposed amendment:

A. By rezoning this 2.40 acre parcel from the present OCIL(Office/ Light Commercial) to the RM-4 will help create a much needed housing development in this section of Ward I.

B. Housing should not interfere with the existing commercial business park, and trailer park on the Blue Bell Lane.

The required 40' setback for OCIL to RM-4 will present a large undisturbed buffer between future homes and 'right-of-way' street.

C. The property consists of a total acreage of 2.40 acres. The proposed use of this property to be developed as 0.93 acre(s) designated to open space, 0.82 acre(s) proposed 'single family' lots, 0.40 acre(s) designated for street 'right-of-way', and 0.06 acre(s) for the existing Hilton Head Public Service District Lift Station. This will leave 0.25 acre(s) to construct a proposed 30' drainage easement.

D. This property has a natural drainage swale, which at one time allowed drainage from Spanish Wells Road through property to the marsh at Old House Creek.

The state highway department in 1995, installed three 36" RCP - in place of the old 18" RCP- under Spanish Wells Road to allow for future drainage from the Cross Island Parkway through this parcel to the marsh at Old House Creek.

In 1996, the state highway department re-routed the drainage through another area of the parkway. As the developer of this tract, A 30' drainage easement will be created from existing 36" pipes through this tract - as well as Parcels R510 007 000 0438 & R510 007 000 0147(owned by Paddocks, LLC)- and on to the marsh at Old House Creek, for future Town of HHI drainage projects. This area needed for the 30' drainage easement, and it's location thru this parcel as well as the existing PSD lift station would limit the area needed for parking and buildings area- with the required setback requirements.

E. Marketability of this property would be very questionable, with the 30' drainage easement along with the existing HHPD lift station.

F. Water and Sewer is available for this area.

**ZMA130008, The Reserve on Old House Creek
Attachment D – By Right and Conditional Use Table**

Blank = Not Permitted P = Permitted By Right SE = Permitted by Special Exception
PC = Permitted with Conditions

Use	IL	RM-4
Residential Uses		
Group Living		PC
Household Living		
Single Family		P
Multifamily Residential		P
Manufactured Housing Park		PC
Public and Civic Uses		
Aviation/Surface Passenger Terminal	SE	
Educational Facilities		
Schools, Public or Private		SE
Government Facilities	P	PC
Institutions		
Religious Institutions	PC	PC
Other Institutions		SE
Parks and Open Space		
Cemetery		P
Park, Community		SE
Park, Linear		P
Park, Mini		P
Park, Neighborhood		P
Park, Special Use		P
Utilities		
Major Utility	P	SE
Minor Utility	P	P
Telecommunications Facility	PC	PC
Waste Treatment Plant	SE	SE
Commercial Uses		
Eating Establishments		
With Seating, High Turnover	PC	
Without Seating	P	

**ZMA130008, The Reserve on Old House Creek
Attachment D – By Right and Conditional Use Table**

Blank = Not Permitted P = Permitted By Right SE = Permitted by Special Exception
PC = Permitted with Conditions

Use	IL	RM-4
Commercial Uses		
Resort Accommodation		
Bed and Breakfast Inn		SE
Inn		SE
Retail Sales and Service		
Community Theater	PC	
Dance Studio	PC	
Funeral Home	P	
Furniture Store	P	
Hardware, Paint, Glass, Wallpaper or Flooring Store	P	
Kennel, Boarding	P	
Landscape Nursery	P	
Veterinary Hospital	P	
Watercraft Sales, Rental or Service	P	
Vehicle Sales and Services		
Auto Rental	P	
Auto Repair	P	
Auto Sales	PC	
Car Wash	P	
Taxicab Service	P	
Towing Service	P	
Truck or Trailer Rental	PC	
Industrial Uses		
Aviation Services	PC	
Light Industrial Services		
Contractor's Office	P	
Other Light Industrial Service	P	
Manufacturing and Production		
Other Manufacturing and Production	P	

**ZMA130008, The Reserve on Old House Creek
Attachment D – By Right and Conditional Use Table**

Blank = Not Permitted P = Permitted By Right SE = Permitted by Special Exception
PC = Permitted with Conditions

Use	IL	RM-4
Industrial Uses		
Warehouse and Freight Movement		
Moving and Storage	P	
Self-Service Storage	P	
Warehousing	P	
Waste Related Service	P	
Wholesale Sales		
Contractor's Materials	P	
Wholesale Business	P	
Wholesale Business with Accessory Retail Outlet	PC	
Other Uses		
Agriculture		P

Memo

To: Planning Commission
From: Darrin Shoemaker, Traffic and Transportation Engineer (Voice (843)341-4774)
(Cell (843)384-5021)
Via: Teri Lewis, LMO Official
Date: 12/30/2013
Re: 2013 Traffic Monitoring and Evaluation Report

Recommendation: It is recommended that the Planning Commission review the 2013 Traffic Monitoring and Evaluation Report, solicit public comments at their January 8th, 2014 public meeting, endorse the report and its findings, and forward any supplemental comments and/or recommendations in writing to Town Council as outlined in the Land Management Ordinance (LMO).

Summary: The report summarizes the results of the Town's 2013 traffic volume data collection efforts undertaken annually on typical weekdays, excluding Mondays and Fridays, during the first half of June. Also summarized in the report are traffic engineering operational analyses of all signalized intersections within the Town for both the morning and afternoon peak volume hours, and recommendations to mitigate an intersection found to be operating non-compliant with the Town's operational goals for signalized intersections. A total of four signalized intersections were identified as being deficient during either the morning or afternoon peak volume hours, and one intersection was identified as being deficient during both peak hours. The volume data in the report became the most current for use as background data in evaluating potential traffic impacts associated with development reviews and the preparation of traffic impact analysis plan studies by applicants upon its certification by the LMO Official on October 23rd, 2013. This report has been provided to Town Council coincident with its inclusion in the Planning Commission's December 18th, 2013 meeting packet.

Background: This report, prepared in accordance with the requirements of Land Management Ordinance (LMO), is presented annually to the Planning Commission by the LMO Official. The LMO outlines traffic volume data and analysis that are required to be included in the report, and requires the LMO Official's annual certification of the traffic volume data. The LMO states that the report will be provided to Town Council simultaneously with the Planning Commission, which has been done, and that the Planning Commission will hold a public meeting concerning the report, eliciting comments from the public, and forwarding any supplemental comments or recommendations to Town Council following the public meeting. The Planning Commission has traditionally taken a formal vote to endorse the report, as well as on any subsequent comments or recommendations to be forwarded to Town Council. The LMO requirements regarding this process are outlined in section 16-5-1311.

To: Hilton Head Island Planning Commission

From: Darrin A. Shoemaker, Traffic and Transportation Engineer

Via: Teri Lewis, LMO Official

Cc: Town Council
Steve Riley, Town Manager
Charles Cousins, Director of Community Development
Scott Liggett, Director of Public Projects & Facilities/Chief Engineer

Date: November 25th, 2013

Re: 2013 TRAFFIC MONITORING AND EVALUATION REPORT

PART ONE – INTRODUCTION

As required by Section 16-3-1311 of the Town's Land Management Ordinance (LMO), this report will summarize 2013 traffic volume demand on the Town's primary roadway network and recommend improvements to mitigate any operating conditions identified as being out of compliance with the Town's adopted operational goals outlined in Section 16-5-1103 of the LMO. The minimum requirements of the report as outlined in Section 16-3-1311 of the LMO are: 1) Summary of June 2013 weekday morning and afternoon peak hour turning movement counts for all signalized intersections within the Town 2) Summary of twenty-four hour volume demand on the Town's major arterials 3) Historical trends during the previous five years for twenty-four hour traffic demand on the Town's major arterials 4) Description of existing operating conditions as compared with the adopted traffic goals by utilizing the methodology outlined in the current (2010) edition of the Transportation Research Board's *Highway Capacity Manual*, and how these conditions have changed since the preparation of the 2012 Traffic Monitoring and Evaluation Report, and 5) Recommendations on improvements to mitigate any existing conditions found to be non-compliant with the Town's goals.

The Town's adopted traffic goals may be summarized as requiring a volume-to-capacity ratio of 0.9 or lower and an average total delay-per-vehicle of 55 seconds or less at each signalized intersection during both the morning and afternoon peak hours of an average June weekday. The Town's LMO requires that each signalized intersection be analyzed annually, and that Sea Pines Circle be analyzed in years that are multiples of five. Sea Pines Circle was analyzed and found compliant in the 2010 Traffic Monitoring and Evaluation report, and will not be reevaluated until 2015. See

the top of page three of this report for a definition of average total delay and its distinction from average stopped delay.

This report will examine both morning and afternoon weekday peak hour demand at signalized intersections within the Town in accordance with the definition of "peak hour" offered in Chapter 10 of the LMO. The LMO requires that this report be based on data collected on a typical June weekday in order to avoid identifying deficiencies based on atypically high traffic volume days such as major summer holiday weekends or events such as the RBC Heritage Presented by Boeing golf tournament or Concours D'Elegance automobile show. The Town traditionally hires a traffic counting consultant to collect the data during the first and/or second full weeks of June. All of the morning and afternoon peak hour turning movement count data summarized in Appendix A was counted manually by human beings on either Tuesday, June 4th, Wednesday, June 5th, or Thursday, June 6th, 2013. The 24-hour count data summarized in Table One of this report was collected by pneumatic tube mechanical counters on the same three dates, and the resulting figures reported in Table One are average values for the three days. The Town's Engineering Division monitored traffic conditions on these dates to ensure that the data collected accurately reflected the "typical" June weekday conditions required by the LMO that were not unduly influenced by factors such as adverse weather, vehicle collisions or road construction. Despite these efforts, significant year-to-year fluctuations in demand are routinely evident, and these can sometimes be unpredictable or difficult to rationalize. Due to these variations, this report includes historical data that enables the reader to draw conclusions based on five-year volume trends in addition to the spot morning and afternoon peak hour data collected each June. All of the traffic counts collected in June 2013 were judged by staff to be consistent with expectations based on previous counts, and none of the collected data was found to be aberrant or unsuitable for analysis purposes.

The operating goals for all signalized intersections as outlined in Section 16-5-1103 of the LMO are based on the volume-to-capacity (v/c) ratio and the average total delay experienced by motorists based on operating conditions during the weekday morning and afternoon peak traffic volume hour. The volume-to-capacity ratio is essentially a percentage of the intersection's capacity to discharge traffic that is being demanded by motorized and non-motorized traffic. See the bottom of page three of this report for a more detailed discussion on the development and relevance of the intersection's volume-to-capacity ratio. The denominator in this ratio ("c"), the signalized intersection's capacity, is dependent to a large extent on the lanes available at the intersection and their width, the manner in which they are assigned to specific movements of traffic ("lane-use"), and the manner in which the signal is operated, or "timed." The numerator in the ratio ("v") is the intersection's hourly vehicular demand adjusted to account for a variety of factors such as variability in the flow over the course of the peak hour and heavy vehicle percentage estimates. The operational goals are a

v/c ratio that does not exceed 0.9 during these peak hours, or ninety percent of the intersection's theoretical hourly capacity based on the signal's current timing plan, and an average total delay of 55 seconds or less experienced by motorists when passing through the intersection during peak volume hours. Total delay experienced by a motorist at a traffic signal is greater than the actual time that they are completely stopped. When approaching a traffic signal, a motorist must often slow their vehicle in response to stopped traffic ahead. The motorist may or may not have to come to a complete stop at the signal. When traffic begins to flow again, a period of time is required for the motorist to accelerate to normal travel speed and free themselves from the restrictions imposed by surrounding stopped vehicles. Therefore, the average total delay experienced by motorists at a traffic signal is the sum of the time required for a vehicle operator to complete all of these actions and pass through the intersection less the time that would've been required to pass through the area if there was no intersection present. Total delay, therefore, may be experienced by motorists that are confronted entirely with green traffic signals if traffic congestion resulting from a previous signal change causes the motorist to slow.

Capacity can typically be maximized at a signalized intersection by ensuring that the signal changes as infrequently as is practical. Each time a traffic signal changes, one group of motorists must come to a stop while flow must be reestablished on a different group of traffic lanes. There are routinely a couple of seconds where no one at all is moving. Therefore, a signalized intersection's capacity can theoretically be increased by changing traffic signals less frequently, thereby reducing signal changes and their associated starts and stops. Traffic signals within the Town change somewhat infrequently (usually every two to three minutes) during peak volume hours in order to help ensure that capacity is increased and the Town's capacity-based goals are met. Changing signals less frequently, however, means that motorists may be delayed for relatively long periods of time, however, and this can cause the average delay experienced by motorists to increase. Therefore, the Town's operating goals simultaneously ensure that our traffic signals are not set to change so infrequently that capacity is maximized in favor of inordinately long delays, or conversely, so frequently that delay is minimized while adequate capacity to move traffic is compromised. The traffic engineer's job is to select an optimum signal timing that balances these competing interests by operating the signal in a fashion that affords the required capacity without causing excessive delays. Congested, high-volume intersections require relatively infrequent signal changes in order to afford the required capacity to move traffic, while lighter-demand intersections change more frequently to reduce delays to motorists.

When the Town received the software package that performs the intersection analysis methodology as outlined in the *Highway Capacity Manual*, staff was surprised to learn that it continued to calculate the average delay-per-vehicle figure for each intersection, but omitted the intersection volume-to-capacity calculation. Hence, the

intersection volume-to-capacity ratios included in Tables Four and Five of this report were calculated by hand for both the morning and afternoon peak hours for all of the Town's signalized intersections. A discussion on current issues surrounding the use of the intersection v/c ratio as a general measure of effectiveness and the reasons for its omission from the current HCM analysis software was included in the 2012 Traffic Monitoring and Evaluation Report.

PART TWO – TURNING MOVEMENT COUNTS AT SIGNALIZED INTERSECTIONS – JUNE 2013 PEAK VOLUME HOURS

Turning movement counts for all signalized intersections during the intersection's morning and afternoon peak volume hours as recorded on Tuesday, June 4th through Thursday, June 6th, 2013 are summarized in diagrammatic form in Appendix A. Each turning movement diagram includes a total peak hour intersection demand and a total peak hour demand for each traffic "movement." At a conventional four-way cross-type intersection, motorists may typically turn left, proceed straight through the intersection, or turn right, generating three possible traffic "movements" from each intersection approach. U-turns are also a fourth possible movement, but are typically infrequent at signalized intersections and can be combined with left-turn movements for analysis purposes. Pedestrians or bicyclists *crossing* that intersection approach constitute a fourth and fifth movement that must be counted separately for analysis purposes, however. For the first time, the 2013 Traffic and Monitoring Evaluation Report includes separate, distinct figures for crossing movements by both pedestrians and bicycles. On each of the diagrams, the percentage change in the June 2013 motor vehicle turning movement volume relative to the comparable June 2012 figure is rounded to the nearest whole percent, except in instances where the hourly volume demand on the movement did not reach fifty vehicles in either 2012 or 2013. The percentage change in the total intersection volume demand is shown rounded to the nearest tenth of one percent in the center of the diagram, and is also summarized in Table Three on pages six and seven of this report. Where pedestrian or bicycle crossing activity was observed, these demands are shown adjacent to the vehicular volume data for each approach. Therefore, the bicycle and pedestrian volume data reflects total number of crossings, regardless of the direction in which the crossing took place. For purposes of consistency, the off-island (westbound) direction is shown to the right of each diagram and the on-island direction toward Sea Pines Circle is shown to the left on each diagram for intersections on William Hilton Parkway. The diagrams for Palmetto Bay Road and Pope Avenue show the off-island direction toward the Charles Fraser toll bridge at the top of the diagram, and the on-island direction toward Coligny Circle at the bottom of the diagram.

PART THREE – AVERAGE DAILY DEMAND ON MAJOR TOWN ARTERIALS

Average twenty-four hour traffic demand at strategic locations on major arterials within the Town as counted on Tuesday, June 4th through Thursday, June 6th, 2013 is shown in Table One below. Comparable figures are shown for each of the ten count locations throughout the Town for each year from 2008 through 2013. The 2008 column is included in order to enable five-year change comparisons as required by the LMO. The *average annual rate of change* during the previous five years for each location is shown in the far right column. When reviewing Table One, it is important to note that the word east or south may also be read as “on-island side of” and the word west may be read as “off-island side of” in each instance. A map showing the exact location of each count location shown in Table One is included as Appendix B to this report.

Table Two on page 6 shows similar data supplied by the South Carolina Department of Transportation (SCDOT) for average daily traffic demand on US 278 on Jenkins Island near the J. Wilton Graves (Skull Creek) bridge, for the years 2007 through 2012. Being a calendar year average, the 2013 SCDOT figure has not been released at the time of this report. Since these figures purport to be average demand over the course of a calendar year, they are generally about ten percent less than the average June weekday data collected by the Town each year.

TABLE ONE

24-HOUR BI-DIRECTIONAL TRAFFIC DEMAND – JUNE 2008-2013

Map Ref.	Location	2008	2009	2010	2011	2012	2013	%change/yr.
1)	Wm. Hilton Pkwy. at J. Wilton Graves Br.	53,479	53,949	55,275	52,080	54,343	56,079	+1.0
2)	Wm. Hilton Pkwy. west of Cross Is. Pkwy.	50,066	53,971	53,946	48,519	52,386	46,177	-1.6
3)	Wm. Hilton Pkwy. east of Whooping Crane	44,848	46,600	45,444	43,750	52,994	43,794	-0.5
4)	Wm. Hilton Pkwy. east of Coggins Pt. Rd.	34,535	32,231	32,578	29,920	33,033	31,249	-2.0
5)	Wm. Hilton Pkwy. west of Queens Folly Rd	37,888	39,856	39,699	34,805	36,773	39,182	+0.7
6)	Wm. Hilton Pkwy. west of Arrow Road	28,585	30,940	31,036	27,868	28,418	31,214	+1.8
7)	Pope Avenue south of New Orleans Rd.	29,991	29,990	30,700	30,871	30,252	29,544	-0.3
8)	Palmetto Bay Rd. south of Pt. Comfort Rd.	23,870	23,558	23,678	22,814	23,207	24,941	+0.9
9)	Sol Blatt Jr. XIP south of W.Hilton Pkwy.	17,717	13,904	14,412	14,171	14,712	13,273	-5.6
10)	Sol Blatt Jr. Cross-Is. at Toll Plaza	23,793	24,339	23,446	23,314	23,010	22,489	-1.1
TOTAL OF ALL TEN STATIONS		344,772	349,338	350,214	328,112	349,128	337,942	

Town-Wide Rate of Change	– 2012-2013 =	-3.2 % *
Town-Wide Rate of Change	– 2011-2012 =	+6.4 % *
Effective Town–Wide <i>Annual</i> Rate of Change	– 2008-2013 =	- 0.4 % *

*All three rates based *exclusively* on data in Table One

TABLE TWO

SCDOT 24-HOUR AVERAGE BI-DIRECTIONAL DEMAND ON HHI BRIDGES (calendar year average – AADT)

2008 - 47900	% change 2011 vs. 2010:	+0.6%
2009 - 47600	% change 2012 vs. 2011:	+1.6%
2010 - 49600	Avg. annual rate of change 2008 – 2012:	+1.1%
2011 - 49900		
2012 - 50700		

Appendix C contains a report released by the *Federal Highway Administration* in July 2013 on trends in the amount of motorized vehicle travel nationwide. This report indicates a 0.4% increase in travel demand on highways in SC in June 2013 compared with June 2012, and a 0.5% decrease in demand on highways within the South Atlantic region in June 2013 compared with June 2012.

Table Three on the following page shows the total combined vehicular, bicycle, and pedestrian morning and peak hour demand on each of the Town's twenty-two signalized intersections in June 2013, and the percentage change from the comparable June 2012 figure. Based exclusively on the data contained in Table Three below, peak hour traffic volume at signalized intersections increased 2.3 percent over that recorded in 2012.

TABLE THREE

PEAK HOUR SIGNALIZED INTERSECTION VOLUME – June 2013

	AM		PM	
	Vol.	%Chg.'13-'12	Vol.	%Chg.'13-'12
William Hilton Pkwy. / Squire Pope Rd.	4186	-1.7	4612	-1.5
William Hilton Pkwy. / Spanish Wells Rd.	4207	+2.5	4754	+5.1
William Hilton Pkwy. / Gumtree Rd.	3534	-3.1	4128	+4.2
William Hilton Pkwy. / Wilborn Rd.	3737	+6.6	3854	+2.5
William Hilton Pkwy. / Pembroke Dr.	3462	+3.8	3754	+5.8
William Hilton Pkwy. / Whooping Crane Way	3381	-0.0	3755	-5.1
William Hilton Pkwy. / Beach City Rd.	3218	-5.3	3554	+4.7
William Hilton Pkwy. / Mathews Dr. (north)	2954	+3.5	3998	-1.7
William Hilton Pkwy. / Dillon Rd.	2388	+9.8	2865	-4.1
William Hilton Pkwy. / Coggins Point Rd.	2006	+13.8	2738	-0.4
William Hilton Pkwy. / Beachwood Dr.	1877	+18.9	2437	-2.7
William Hilton Pkwy. / Mathews / Folly Field	2599	+19.8	3764	+7.1
William Hilton Pkwy. / Singleton Beach Rd.	2193	+10.6	3107	+7.6
William Hilton Pkwy. / Shelter Cove Lane	2102	+11.4	3115	+4.9
William Hilton Pkwy. / Queen's Folly Rd.	2491	-5.4	3934	+19.6
William Hilton Pkwy. / Shipyard / Wexford	1935	-3.3	2953	+1.5
William Hilton Pkwy. / New Orleans Rd.	1620	-8.2	2596	+0.1
William Hilton Pkwy. / Arrow Rd.	1600	-5.3	2414	-2.3
Pope Ave. / New Orleans / Office Park	1939	+1.3	2874	+1.1
Pope Ave. / Cordillo Pkwy.	1492	-6.5	2637	+12.7
Palmetto Bay Rd. / Target Rd.	1910	-7.8	2623	+8.8
Palmetto Bay Rd. / Arrow / Point Comfort	1926	-2.5	2246	-14.0

PART FOUR – DESCRIPTION OF OPERATING CONDITIONS RELATIVE TO ADOPTED SERVICE GOALS

This analysis of the Town's signalized intersections is based on the traffic volume data collected during the morning and afternoon peak volume hours between Tuesday, June 4th, 2013 and Thursday, June 6th, 2013. The analysis was conducted in accordance with the current 2010 edition of the Transportation Research Board's *Highway Capacity Manual* as required by the LMO.

The LMO states that the LMO Official will recommend improvements to address instances where the analysis identifies intersections operating during the weekday morning or afternoon peak hour with an intersection volume-to-capacity ratio of more than 0.90 (ninety percent of theoretical capacity), or that are resulting in average delays exceeding 55.0 seconds per motorist. A summary of existing volume-to-capacity ratios

and average total delay per vehicle resulting from analyses conducted of the morning peak hour in June 2013 and in June 2012 is shown in Table Four below. The same information for the afternoon peak hour is summarized in Table Five on the following page. Values that are non-compliant with the Town's operational goals are shown in bold.

**TABLE FOUR – MORNING PEAK HOUR
INTERSECTION VOLUME-TO-CAPACITY RATIOS AND AVERAGE TOTAL DELAY PER VEHICLE –
JUNE 2013 – JUNE 2012**

	2013		2012	
	v/c	dpv	v/c	dpv
WHP w/ Squire Pope Rd/Chamberlin Drive	1.06	44.6	0.91	19.5
WHP w/ Spanish Wells Rd./Wild Horse Road	0.68	12.2	0.65	12.4
WHP w/ Gumtree Road/XIP Ramps	0.89	39.2	0.84	48.0
WHP w/ Wilborn Road/Jarvis Park Road	1.22	71.2	0.85	21.3
WHP w/ Pembroke Dr./Museum Street	0.77	22.5	0.74	22.3
WHP w/ Whooping Crane Way/Indigo Run Dr.	0.73	22.6	0.64	20.7
WHP w/ Beach City Rd./Gardner Dr.	0.66	17.4	0.76	18.0
WHP w/ Mathews Drive (north)	0.56	21.8	0.50	20.3
WHP w/ Dillon Road	0.51	11.8	0.46	12.1
WHP w/ Coggins Pt. Rd.	0.40	26.8	0.30	24.9
WHP w/ Beachwood Dr.	0.35	1.6	0.27	1.8
WHP w/ Folly Field Rd./Mathews Dr.	0.39	19.0	0.33	18.9
WHP w/ Singleton Bch. Rd.	0.43	1.9	0.38	2.3
WHP w/ Shelter Cove Lane	0.43	1.7	0.42	3.1
WHP w/ Queens Folly Rd./King Neptune Dr.	0.67	38.8	0.76	18.7
WHP w/ Shipyard Dr./Wexford Dr.	0.43	10.5	0.44	26.8
WHP w/ New Orleans Rd.	0.42	13.5	0.50	14.0
WHP w/ Arrow Road	0.45	13.1	0.45	14.7
Pope Ave. w/ New Orleans Rd./Office Park Rd.	0.46	29.4	0.31	27.6
Pope Ave. w/ Cordillo Parkway	0.54	28.2	0.39	25.0
Palmetto Bay Road w/ Target Road	0.49	13.4	0.49	14.5
Palmetto Bay Road w/ Arrow Road/Point Comfort Road	0.54	15.5	0.47	13.5

v/c – volume-to-capacity ratio

dpv – average total delay per vehicle in seconds

WHP-William Hilton Parkway

**TABLE FIVE – AFTERNOON PEAK HOUR
INTERSECTION VOLUME-TO-CAPACITY RATIOS AND AVERAGE TOTAL DELAY PER VEHICLE –
JUNE 2013 – JUNE 2012**

	2012		2011	
	v/c	dpv	v/c	dpv
WHP w/ Squire Pope Rd/Chamberlin Drive	1.04	38.8	1.25	43.7
WHP w/ Spanish Wells Rd./Wild Horse Road	0.76	14.9	0.69	15.5
WHP w/ Gumtree Road/XIP Ramps	0.83	40.7	0.81	34.8
WHP w/ Wilborn Road/Jarvis Park Road	0.84	10.2	0.76	7.2
WHP w/ Pembroke Dr./Museum Street	0.81	37.2	0.77	30.2
WHP w/ Whooping Crane Way/Indigo Run Dr.	0.76	21.0	0.69	18.3
WHP w/ Beach City Rd./Gardner Dr.	0.64	12.5	0.68	15.3
WHP w/ Mathews Drive (north)	0.71	29.3	0.64	28.8
WHP w/ Dillon Road	0.57	12.7	0.50	12.9
WHP w/ Coggins Pt. Rd.	0.67	16.9	0.60	17.4
WHP w/ Beachwood Dr.	0.36	2.3	0.38	2.3
WHP w/ Folly Field Rd./Mathews Dr.	0.65	25.2	0.52	24.2
WHP w/ Singleton Bch. Rd.	0.55	5.8	0.49	4.0
WHP w/ Shelter Cove Lane	0.53	12.4	0.49	13.9
WHP w/ Queens Folly Rd./King Neptune Dr.	0.85	77.6	0.62	30.2
WHP w/ Shipyard Dr./Wexford Dr.	0.54	12.4	0.49	10.7
WHP w/ New Orleans Rd.	0.61	20.2	0.58	17.7
WHP w/ Arrow Road	0.62	23.0	0.39	22.7
Pope Ave. w/ New Orleans Rd./Office Park Rd.	0.89	80.5	0.60	36.8
Pope Ave. w/ Cordillo Parkway	0.70	40.8	0.58	36.5
Palmetto Bay Road w/ Target Road	0.56	18.7	0.52	16.9
Palmetto Bay Road w/ Arrow Road/Point Comfort Road	0.58	19.1	0.57	20.0

v/c – volume-to-capacity ratio

dpv – average total delay per vehicle in seconds

WHP-William Hilton Parkway

As shown in bold in Table Four on page 8, the intersections of William Hilton Parkway with Squire Pope Road/Chamberlin Drive and William Hilton Parkway with Wilborn Road/Jarvis Park Road are the only two signalized intersections within the Town that are failing to meet the dual operational goals outlined in the LMO during the morning peak hour, due to an intersection volume-to-capacity ratio exceeding 0.90 at the former location and a delay per vehicle measurement exceeding 55 seconds at the latter location.

Table Five indicates that three intersections are failing to meet the LMO's dual operational goals during the afternoon peak hour, those of William Hilton Parkway with Squire Pope Road/Chamberlin Drive, William Hilton Parkway with Queens Folly Road/King Neptune Drive, and Pope Avenue with New Orleans Road and Office Park Road. A v/c ratio exceeding 0.9 is the deficiency at the first location, and delay per

vehicle measurements exceeding 55 seconds are the non-compliant results at the remaining two locations. A discussion on these deficiencies is included in Part Five of this report below.

As stated previously, intersection capacity and average delay experienced at any signal is greatly influenced by the way that a signal is timed, and shifts in demand among various traffic movements may warrant adjustments to a signal's timing to ensure optimum performance. In some instances where analyses of peak hour operations based on our updated June 2013 traffic counts indicate failures to satisfy the Town's operational goals as set forth in the LMO, it was found that the deficiency could be mitigated with rather radical signal timing adjustments. Such radical signal timing changes are not recommended by engineering staff in response to an analysis based on a snapshot of June 2013 conditions that may not be typical of prevailing visitor season conditions. Instances where such radical signal timing adjustments were found to bring the signal into compliance with the operational goals but have not been implemented in the field are included in Part Five below.

PART FIVE – INTERSECTIONS OPERATING OUT OF COMPLIANCE WITH TOWN OPERATIONAL GOALS IN JUNE 2013

INTERSECTION OF WM. HILTON PARKWAY WITH SQUIRE POPE ROAD AND CHAMBERLIN DRIVE

As noted in Tables Four and Five, the intersection of William Hilton Parkway with Squire Pope Road and Chamberlin Drive is the only intersection that is failing to meet the operational goals outlined in the LMO during both the morning and afternoon peak volume hours, based on a deficient intersection volume-to-capacity ratio. The intersection's average delay-per-vehicle goal was satisfied in both peak hours, however, a paradox that is explained by the very long green signals displayed to William Hilton Parkway during peak hours and the relatively low volume demand on side streets, which means that an unusually low percentage of motorists are exposed to the very long delays created by the long green signals on William Hilton Parkway.

This intersection has traditionally failed to meet the Town's operational goals for over a decade now due to the high volume demand during peak hours at this signalized intersection that is the closest to the bridges between the mainland and Hilton Head Island. The intersection exhibited a 1.06 volume-to-capacity ratio during the morning peak hour, up from 0.91 in June 2012, and an afternoon peak hour volume-to-capacity ratio of 1.04, down from 1.25 in June of 2012.

While the total intersection volume declined 1.7 percent in the morning peak hour compared with June 2012, the eastbound, on-island flow that is the primary driver of the intersection's capacity deficiency during this time increased a rather substantial ten percent in June 2013 over June 2012. This drove the significant increase in the v/c ratio from 0.91 in 2012 to 1.04 in 2013. The off-island flow, which is constrained to two available lanes and is the primary generator of the volume-to-capacity ratio deficiency in the afternoon, actually decreased by two percent in June 2013 versus June 2012, resulting in a lowered v/c ratio from 1.25 to 1.04. Small changes in traffic volume can have rather large effects on v/c ratios at signals that are operating close to or above capacity.

This intersection's capacity was greatly improved in 2008 with a sales-tax funded intersection improvement project that was accomplished within the Town's capital improvements program. The improvement provided additional intersection capacity in the form of side street improvements and most notably a third eastbound, or "on-island" through lane on William Hilton Parkway that is responsible for the intersection's increased operating performance during the morning peak hour. The Town also extended a third lane westward from Old Wild Horse Road to Squire Pope Road in association with this project, terminating this lane as an exclusive right-turn lane to serve westbound motorists proceeding onto Squire Pope Road. Previous years' analyses have traditionally shown that the successful mitigation of this intersection during the afternoon peak hour required that this third lane be extended further westward through the intersection as a through lane, due to the density of the traffic stream on off-island William Hilton Parkway during the afternoon peak volume hour. Analyses in recent years have also indicated that the construction of an acceleration lane to serve motorists turning right from Squire Pope Road onto William Hilton Parkway successfully mitigates the intersection and brings it into operational compliance. Both of these improvements involve widening of William Hilton Parkway by one lane adjacent to the off-island lanes to the west of the intersection.

An analysis was conducted to assess the respective benefits of extending the third westbound lane that currently terminates as a right-turn lane onto Squire Pope Road through the intersection as a through lane, or alternately, leaving this lane as is and constructing an acceleration lane to serve motorists turning right from Squire Pope Road onto off-island William Hilton Parkway was conducted. The analysis found that the former improvement has the greater operational benefit during the afternoon peak hour, while the latter has the greater operational benefit during the morning peak hour. A summary of the projected impact on the intersection's volume-to-capacity ratio is shown in Table Six on the following page:

**TABLE SIX
IMPACT ON PROJECTED V/C RATIO RESULTING FROM ALTERNATE
IMPROVEMENTS TO THE INTERSECTION OF WHP/SQUIRE POPE ROAD /
CHAMBERLIN DRIVE**

	AM		PM	
	v/c	delay/veh	v/c	delay/veh
Existing condition	1.06	44.6	1.04	38.8
Option 1 (3 rd WB Thru Lane)	1.06	44.5	0.81	23.0
Option 2 (free RT from Sq. Pope Rd.)	0.96	19.9	0.94	8.7

INTERSECTION OF WM. HILTON PARKWAY WITH WILBORN ROAD AND JARVIS PARK ROAD

This intersection experienced a dramatic increase in volume demands during the morning peak hour on both side street approaches and in the left-turn lane serving motorists turning from on-island William Hilton Parkway onto Wilborn Road. Total demand by motorists entering the intersection from Jarvis Park Road increased sixty-two percent in June 2013 versus June 2012. The demand on the left-turn from on-island William Hilton Parkway onto Wilborn Road increased by twenty-nine percent, or seventy-nine vehicles. Most impactful of all, the left-turn demand from Wilborn Road onto on-island William Hilton Parkway increased fifty-five percent, and increase of 148 vehicles, from June 2012 to June 2013. While overall intersection demand increased by only 6.6% during this time, these dramatic increases in side street demands drove an increase in the intersection's morning peak hour v/c ratio from 0.85 in June 2012 to 1.22 in June 2013. Limitations imposed by the intersection's geometrics make it impossible to lower this volume-to-capacity ratio into the range of compliance with the Town's operational goals with signal timing adjustments.

The intersection's delay-per-vehicle assessment also exceeded the limits set by the LMO operational goals, with a figure of 71.2 seconds of total delay per vehicle. Radical signal timing adjustments in the way of shifting time away from William Hilton Parkway to Wilborn Road and the left-turn signal serving on-island William Hilton Parkway motorists successfully mitigated the delay-per-vehicle deficiency, lowering the 71.2 figure to below 55.0. However, Town engineering staff does not recommend implementing such radical timing adjustments in a manner detrimental to William Hilton Parkway flow based on this June 2013 snapshot of traffic volume. It has been suggested at staff level that the morning peak hour count conducted on Wednesday, June 5th, 2013 may have captured the tail end of the 2012/13 school calendar, which may partially explain the dramatic volume increases on traffic movements that serve the public schools campus.

At the request of the Beaufort County Sheriff's Office (BCSO), Town Engineering staff implemented significant timing adjustments to better serve both the left-turn onto Wilborn Road and the left-turn off of Wilborn Road in August of this year. The resulting timing scheme was employed within the analysis that resulted in the 1.22 morning peak hour v/c ratio, but even these significant adjustments favoring these movements were unable to effectively discharge the volume demand increases that were tallied during this year's June 2013 morning peak hour count. The August timing adjustments have resulted in generally smooth morning peak hour traffic operations at the intersection, however, and staff recommends retaining them at this time and for the remainder of this year's school calendar. Staff will monitor the results of the June 2014 morning peak hour count at this intersection to see if the large volume increases again manifest themselves in a manner that may warrant permanent changes to the signal's timing.

INTERSECTION OF WM. HILTON PARKWAY WITH QUEENS FOLLY ROAD AND KING NEPTUNE DRIVE

This intersection exhibited a compliant v/c ratio during both the morning and afternoon peak volume hours, but its afternoon peak hour analysis yielded a delay-per-vehicle assessment of 77.6 seconds per vehicle, well above the 55.0 cited as the maximum in the LMO. An investigation into the cause of this substantial increase from 30.2 seconds per vehicle in June 2012 again points to large increases in various left-turn demands at the intersection. The intersection's total volume increased nearly twenty percent from June 2012 to June 2013, and the left-turn demand entering from King Neptune Drive (Shelter Cove Harbor), an approach that often exhibits wild fluctuations in demand, increased from 88 vehicles in June 2012 to 291 vehicles in June 2013. The left-turn demand from on-island William Hilton Parkway onto Queens Folly Road (Palmetto Dunes) increased a whopping eighty-one percent from 221 to 399 vehicles. The left-turn demand entering from Queens Folly Road also exhibited a dramatic increase of thirty-three percent, or nearly a hundred vehicles in the afternoon peak hour.

Staff was successful at bringing the analysis results into compliance with the Town's LMO operational goal of 55.0 seconds of delay per vehicle or less by again implementing radical signal timing changes that dramatically reduced green time available to William Hilton Parkway in favor of the side streets and left-turn movements. The signal timing adjustments that successfully mitigate the intersection in this regard are again so radical, however, that staff recommends that they not be implemented in response to an analysis of conditions registered on Tuesday, June 4th, 2013. Staff recommends retaining the existing signal timing, particularly during the cooler months,

pending the results of the June 2014 count to determine if the dramatic increases registered during the June 2013 count recur or appear to be an aberration.

INTERSECTION OF POPE AVENUE WITH NEW ORLEANS ROAD AND OFFICE PARK ROAD

As indicated in Table Five at the top of page 9, this intersection experienced a substantial increase in both volume-to-capacity ratio and total delay per vehicle during the afternoon peak hour in June 2013 relative to June 2012. Volume-to-capacity ratio increased from 0.60 to 0.89, and total delay per vehicle increased even more substantially from 36.8 to 80.5 seconds per vehicle, with the latter figure indicating non-compliance with the Town's operational goals. Further, all critical movements at the intersection exhibited relatively high v/c ratios and delays in a manner that made it impossible to significantly lower the total delay per vehicle. Attempts by staff to do so were successful only in lowering the average delay to approximately 75 seconds per vehicle.

Staff was puzzled over the analysis results indicating such substantial increases in v/c ratio and total delay per vehicle due to the fact that, as indicated in Table Three at the top of page seven, total volume demand during the afternoon peak hour increased only 1.1% over that recorded in June 2012. An effort was made to manually compare the analysis results from June 2012 and June 2013 to isolate the cause of these increases.

Chapter 18 of the *Highway Capacity Manual* indicates that the standard analysis procedure is to extract the peak 15-minute period from within the peak volume hour and to base the analysis on this highest-volume 15-minute period. This recognizes the fact that hourly traffic volume is not equally distributed throughout the peak hour, and that fluctuations occur even during peak volume hours. For this reason, the Town has always collected its turning movement counts at signalized intersections in 15-minute increments that enable this important adjustment factor to be calculated. Traffic demand was very equally distributed throughout the peak hour isolated on Thursday, June 7th, 2012, and the peak 15-minute period was only three percent greater than the average for the afternoon peak hour. During the afternoon peak hour isolated on Thursday, June 6th, 2013, however, a sharp increase in demand occurred during the last 15-minute period within the peak hour between 5:00 and 5:15 p.m. Volume during this 15-minute period was 26 percent greater than the average for the entire hour beginning at 4:15 p.m., and this resulted in the substantial increases in the v/c ratio and delay per vehicle as yielded by the analysis.

Staff does not recommend immediately implementing signal timing changes during the afternoon peak hour based on the June 2013 results that assessed conditions during the sharp volume increase confined to a single 15-minute period,

based largely on the fact that the intersection's signal timing seems to be finely tuned toward addressing typical demands throughout visitor season, and will continue to monitor conditions and future analysis results. If the intersection continues to display non-compliance in future years, geometric improvements such as side street widening or a right turn lane on Pope Avenue serving Office Park Road may be considered.

PART SEVEN – SUMMARY

Volume demands recorded within the Town in June 2013 declined 3.2 percent when compared with the data set collected in June 2012, based on the three days of 24-hour data collected on major arterials as outlined in Table One. Morning and afternoon peak volume hour data as summarized in Table Two displayed a 2.3 increase over comparable June 2012 data, however. Partly as a result of the higher peak volume hour figures, four intersections were found to be operating outside of the Town's operational goals in June 2013 compared with only one in June 2012. The intersection of William Hilton Parkway with Squire Pope Road / Chamberlin Drive was found to be non-compliant during both the morning and afternoon peak hours, the only intersection to be deficient during both. Additionally, the intersection of William Hilton Parkway with Wilborn Road / Jarvis Park Road was found to be non-compliant during the morning peak hour, while the intersections of William Hilton Parkway with Queens Folly Road / King Neptune Drive and Pope Avenue with New Orleans Road / Office Park Road were non-compliant during the afternoon peak hour. With the exception of the William Hilton Parkway / Squire Pope Road / Chamberlin Drive intersection, which is constrained geometrically and historically experiences volume-to-capacity ratio deficiencies, the remaining instances of non-compliant operation appear to be the results of unusual traffic demand increases during or within the peak volume hour, and staff does not recommend altering the existing signal timing at the present time based on their assessment that the signals are well-adjusted to discharge prevailing traffic demands during visitor season peak volume hours.

APPENDIX A

PEAK HOUR TURNING MOVEMENT DIAGRAMS
FOR EACH SIGNALIZED
INTERSECTION WITHIN THE TOWN

JUNE 2013

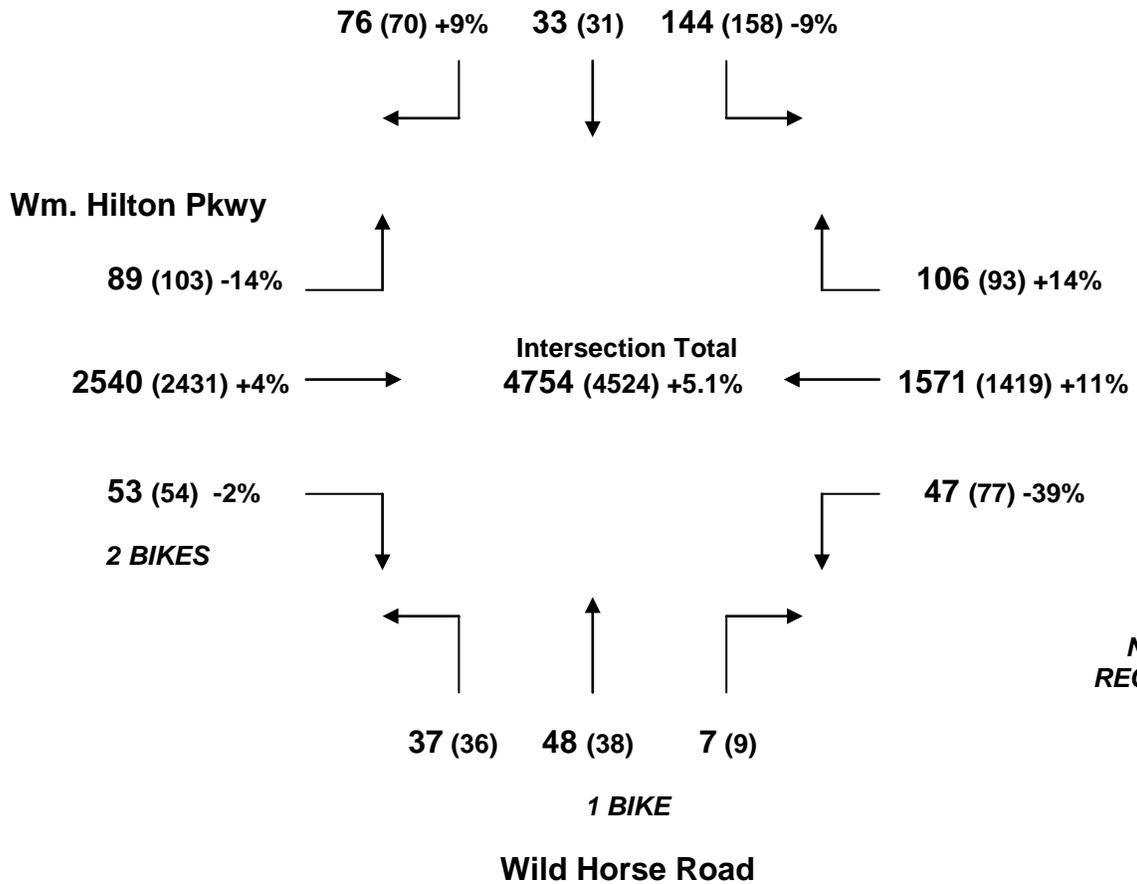
William Hilton Parkway with Spanish Wells Road and Wild Horse Road

P.M. PEAK HOUR (4:45 to 5:45 p.m. – Wed. 6/5/13)

Spanish Wells Road

← Sea Pines Circle

Mainland →



2013 (2012) %chg

William Hilton Parkway with Gum Tree Road and Cross Island Parkway

A.M. PEAK HOUR (7:45 to 8:45 a.m. – Wed. 6/5/13)

Cross Island Expressway

← Sea Pines Circle

Mainland →

3 BIKES

141 (163) -13% 85 (109) -22% 4 (3)



Wm. Hilton Pkwy

86 (106) -19%



4 (5)

751 (712) +5%



Intersection Total

3534 (3646) -3.1%



1674 (1783) -6%

132 (131) +1%



129 (144) -10%

4 BIKES



**NO PEDS
RECORDED**

223 (215) +4%

151 (159) -5%

146 (109) +34%

1 BIKE

Gumtree Road

2013 (2012) %chg

William Hilton Parkway with Gum Tree Road and Cross Island Parkway

P.M. PEAK HOUR (4:30 to 5:30 p.m. – Wed. 6/5/13)

Cross Island Expressway

← Sea Pines Circle

Mainland →

2 BIKES

136 (152) -11% 99 (132) -25% 11 (16)



Wm. Hilton Pkwy

107 (116) -8%



4 (3)

1820 (1835) -1%



Intersection Total
4128 (3960) +4.2%



1198 (1030) +16%

256 (223) +15%



95 (112) -15%



204 (145) +41%

77 (90) -14%

117 (103) +14%

*NO PEDS
RECORDED*

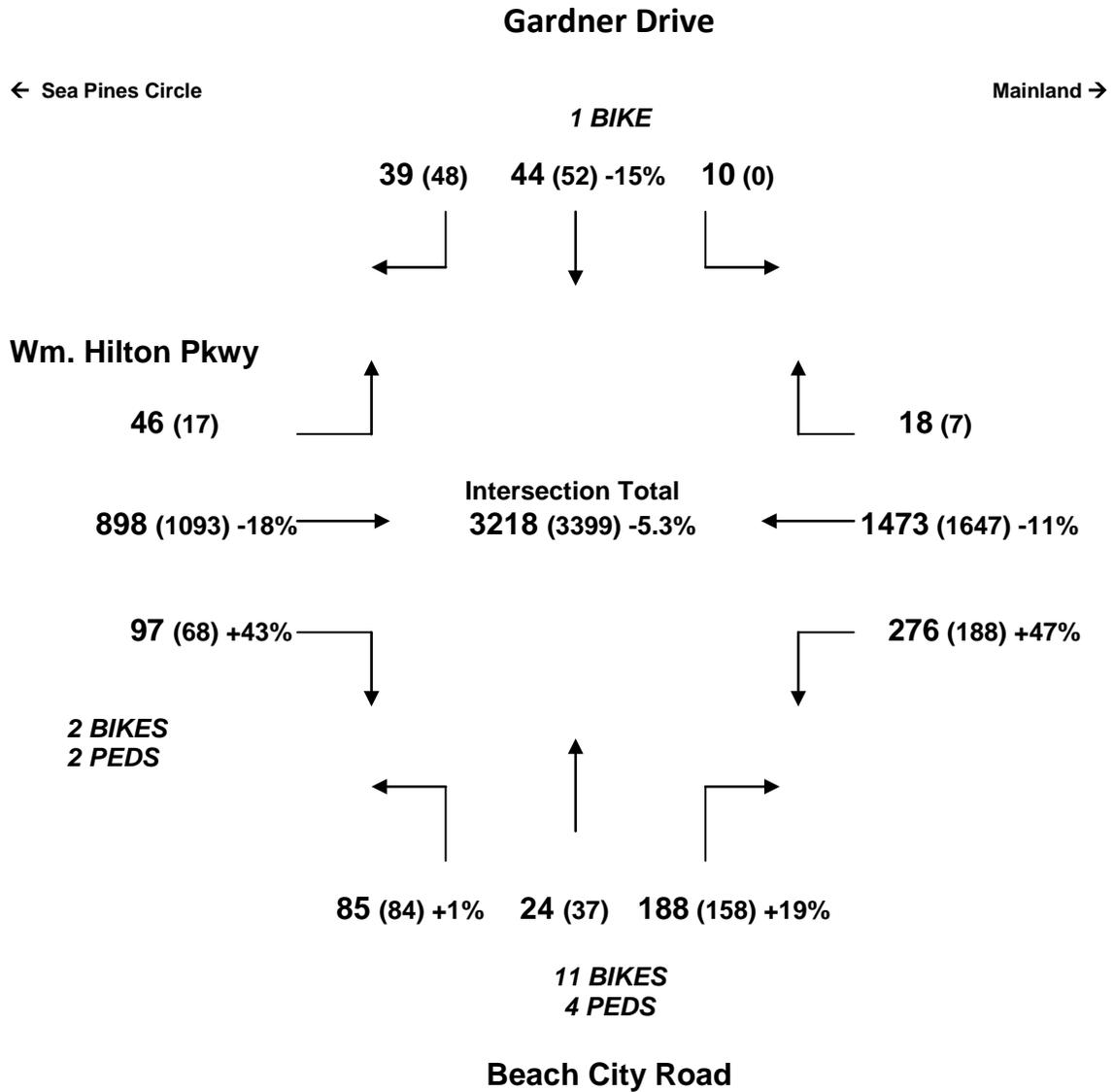
2 BIKES

Gumtree Road

2013 (2012) %chg

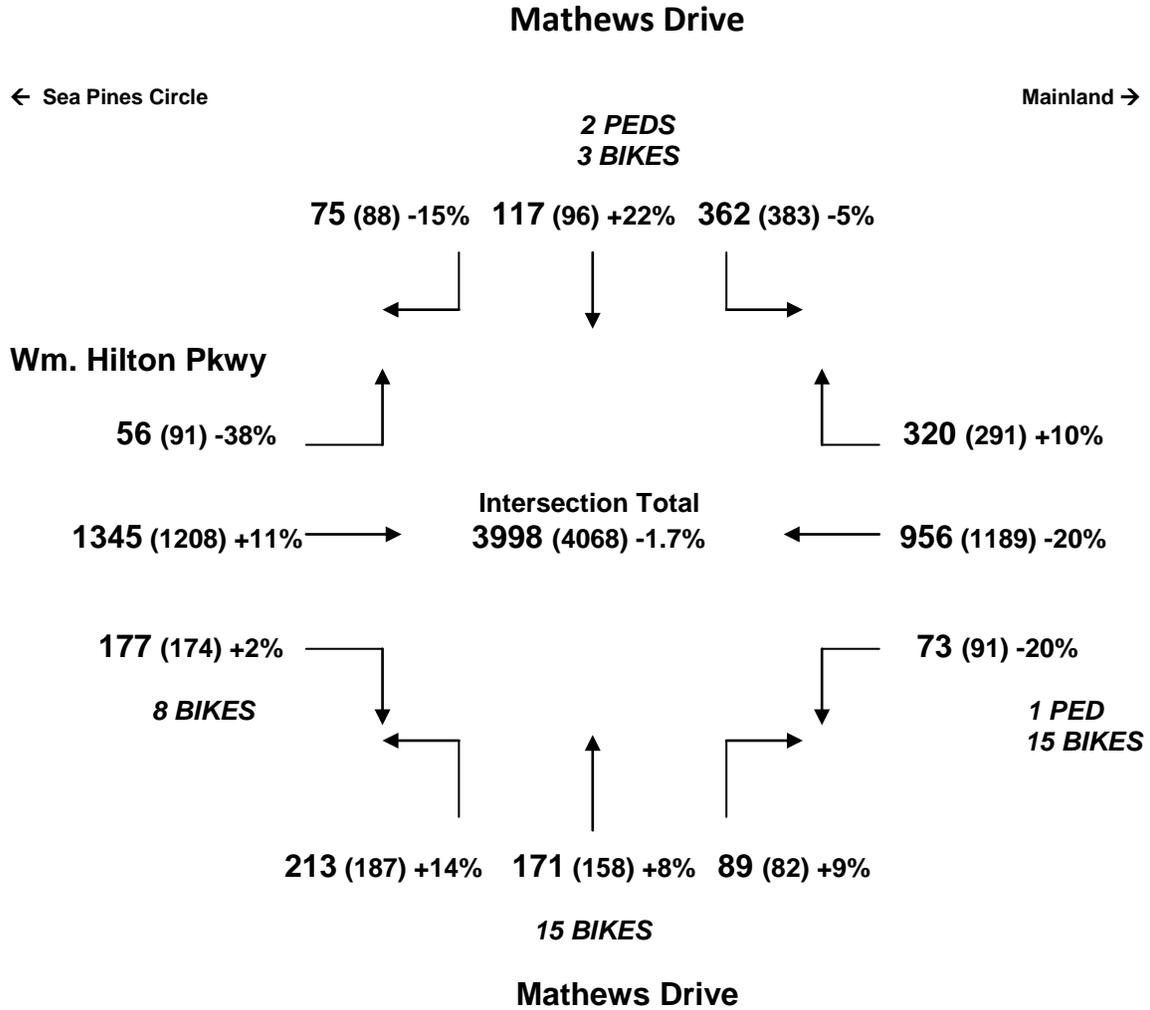
William Hilton Parkway with Beach City Road and Gardner Drive

A.M. PEAK HOUR - (8:00 to 9:00 a.m. – Thu. 6/6/13)



2013 (2012) %chg

**William Hilton Parkway with Mathews Drive
(NORTHERN INTERSECTION)
P.M. PEAK HOUR - (4:30 to 5:30 p.m. – Tue. 6/4/13)**



2013 (2012) %chg

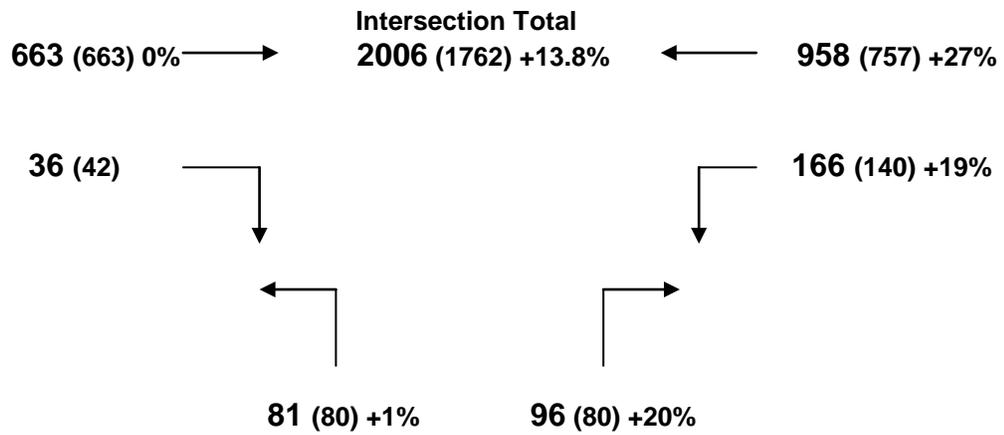
William Hilton Parkway with Coggins Point Road

A.M. PEAK HOUR - (8:00 to 9:00 a.m. – Tue. 6/4/13)

← Sea Pines Circle

Mainland →

Wm. Hilton Pkwy



6 BIKES

Coggins Point Road

**NO PEDS
RECORDED**

2013 (2012) %chg

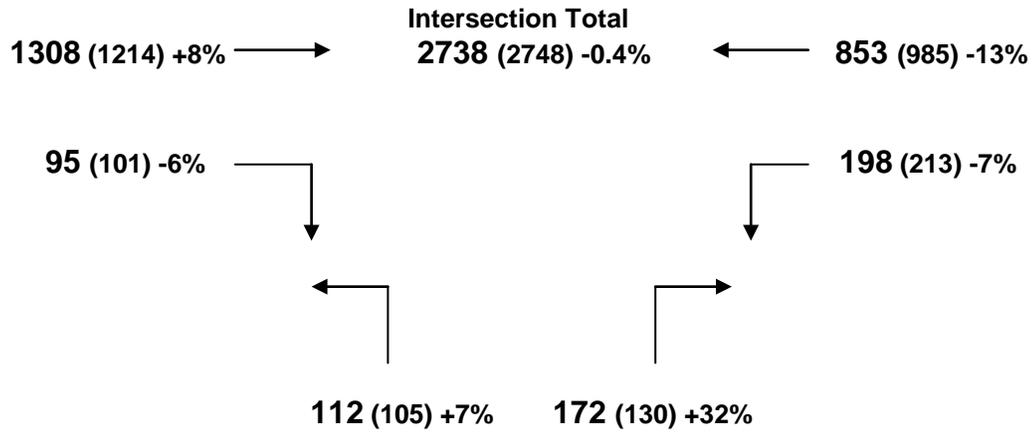
William Hilton Parkway with Coggins Point Road

P.M. PEAK HOUR - (4:30 to 5:30 p.m. – Tue. 6/4/13)

← Sea Pines Circle

Mainland →

Wm. Hilton Pkwy



Coggins Point Road

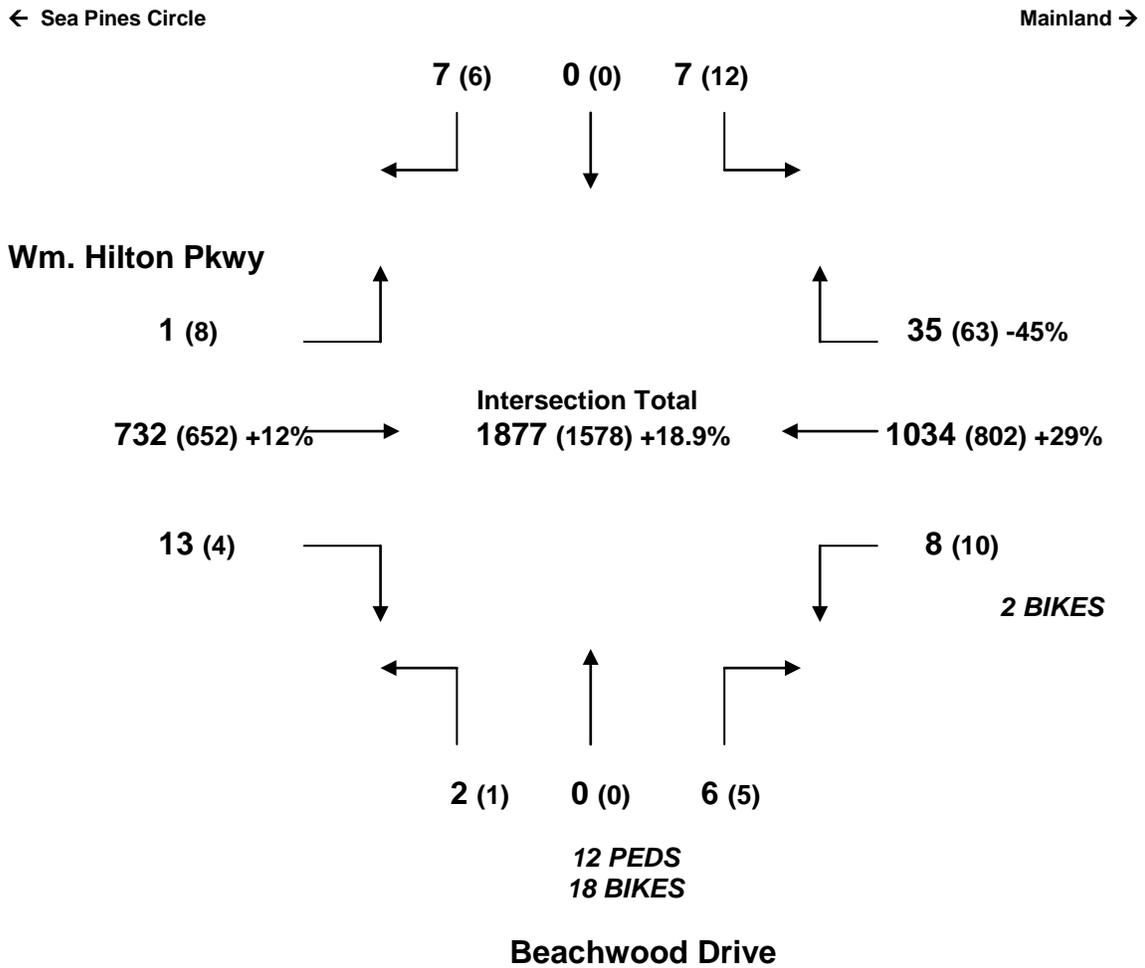
**NO PEDS
OR BIKES
RECORDED**

2013 (2012) %chg

William Hilton Parkway with Beachwood Drive

A.M. PEAK HOUR - (8:00 to 9:00 a.m. – Tue. 6/4/13)

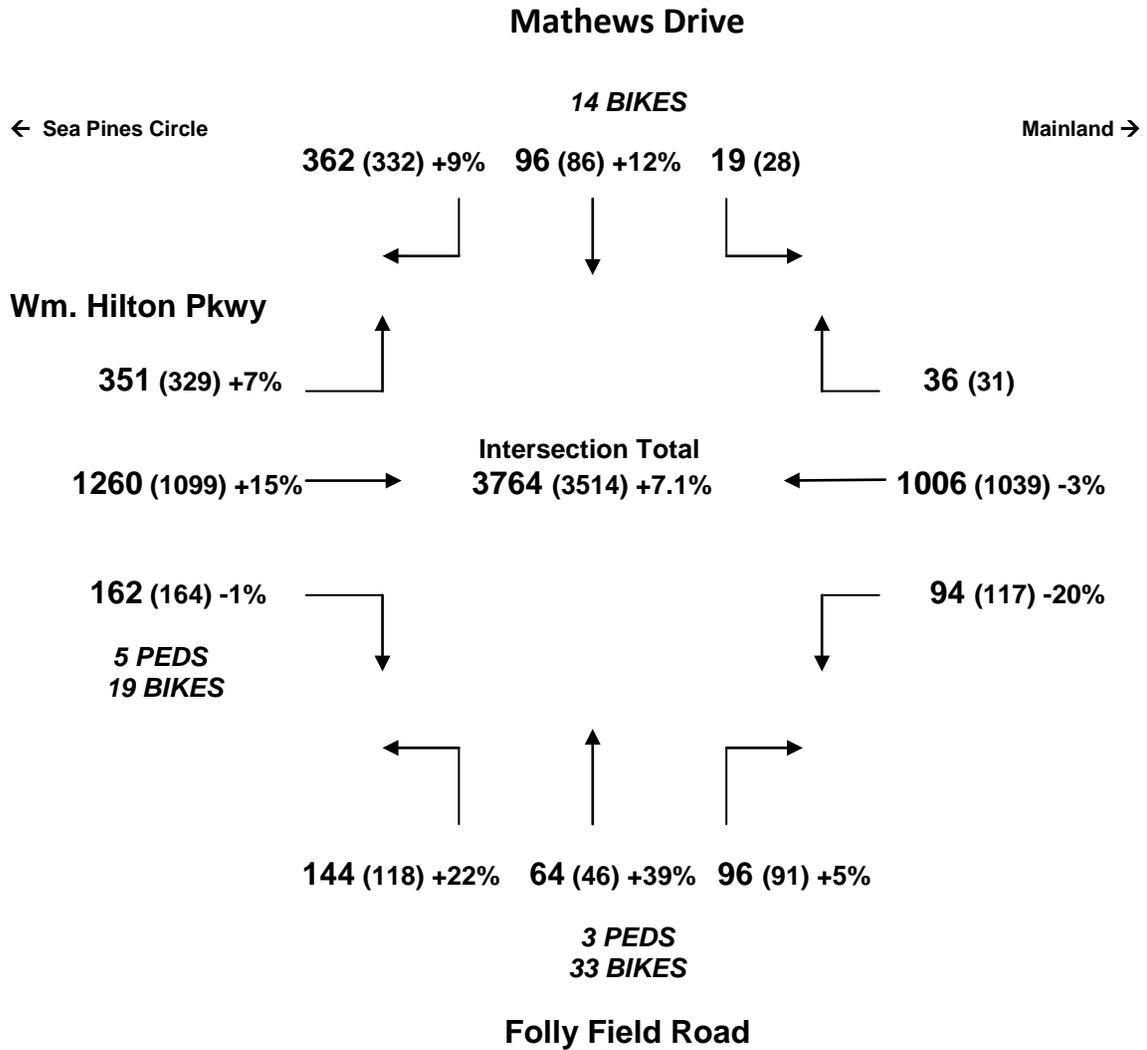
Beachwood Drive



2013 (2012) %chg

William Hilton Parkway with Mathews Drive and Folly Field Road

P.M. PEAK HOUR - (5:00 to 6:00 p.m. – Wed. 6/5/13)



2013 (2012) %chg

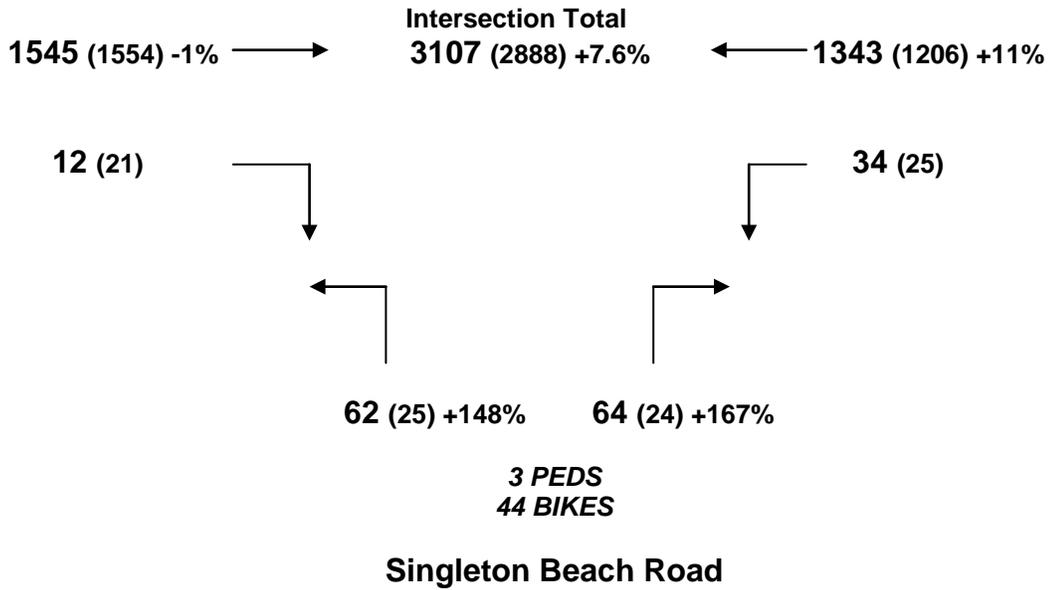
William Hilton Parkway with Singleton Beach Road

P.M. PEAK HOUR - (4:45 to 5:45 p.m. – Tue. 6/4/13)

← Sea Pines Circle

Mainland →

Wm. Hilton Pkwy

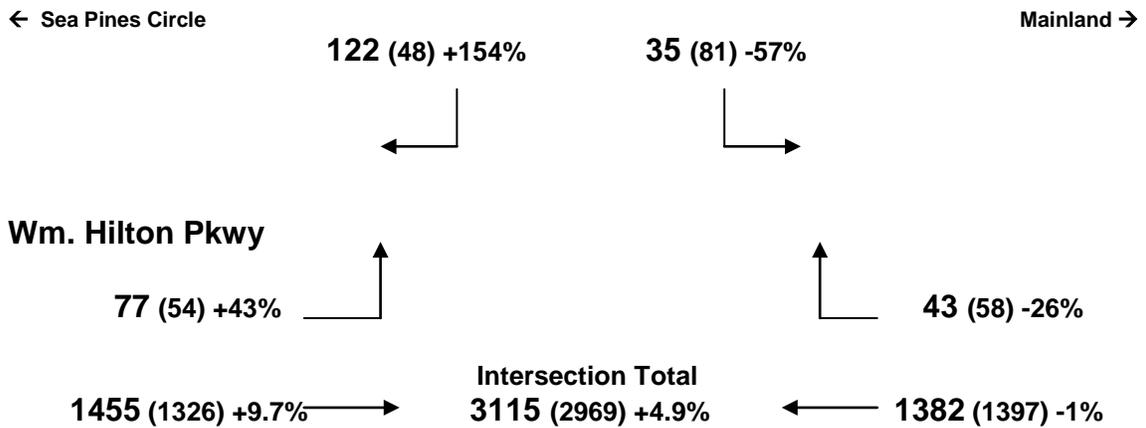


2013 (2012) %chg

William Hilton Parkway with Shelter Cove Lane

P.M. PEAK HOUR - (4:15 to 5:15 p.m. – Tue. 6/4/13)

Shelter Cove Lane



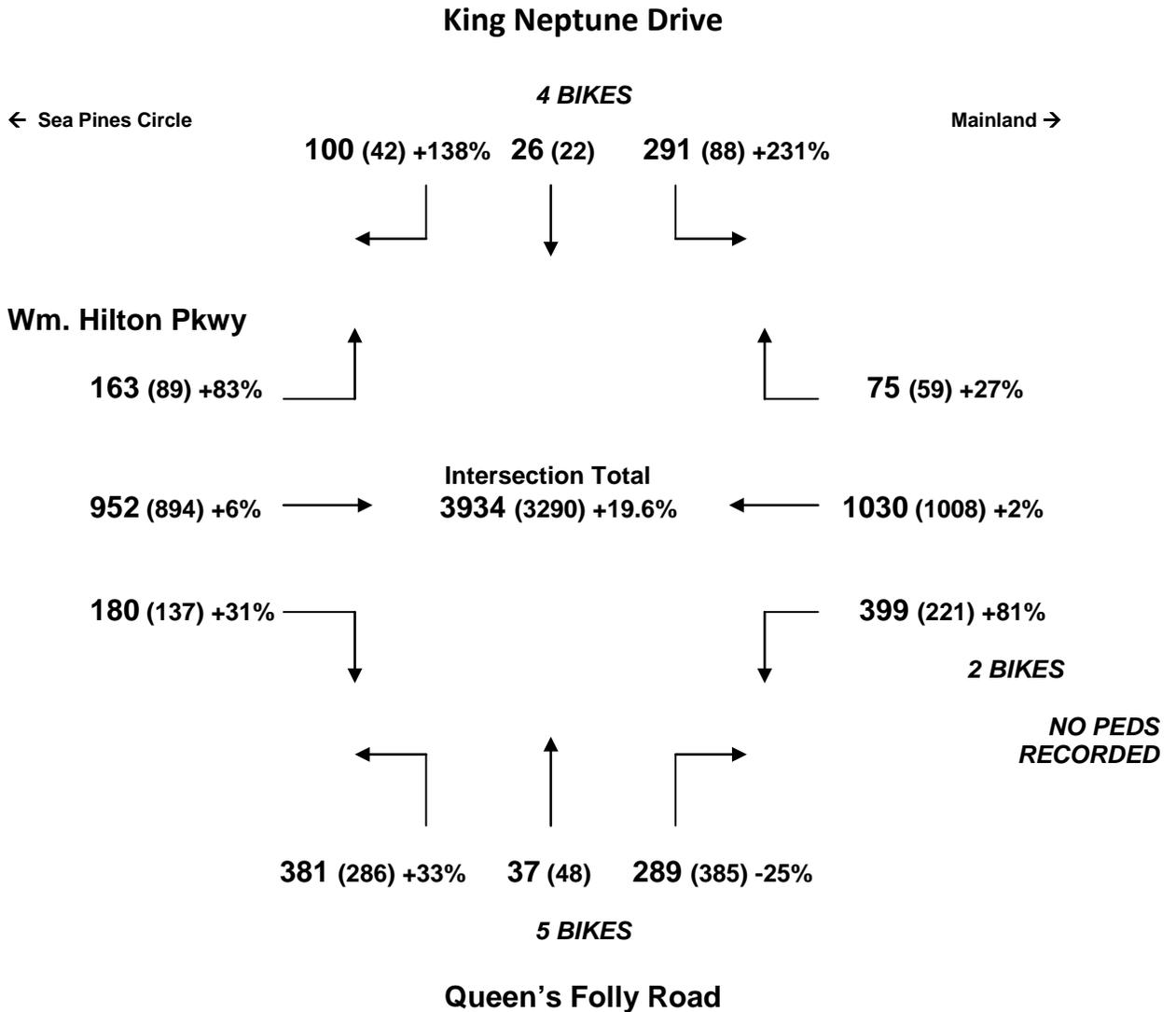
1 BIKE

**NO PEDS
RECORDED**

2013 (2012) %chg

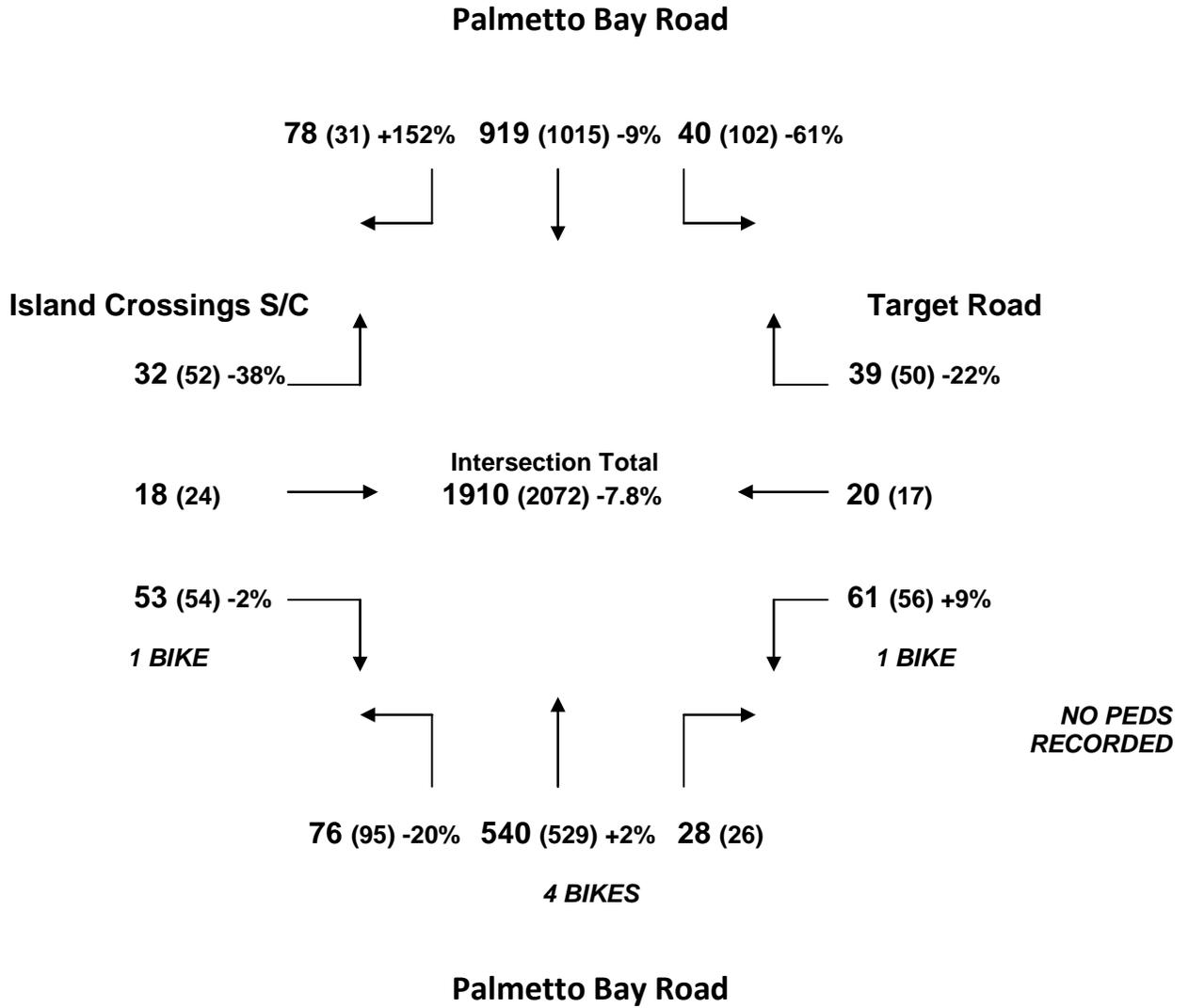
William Hilton Parkway with Queen's Folly Road and King Neptune Drive

P.M. PEAK HOUR - (4:15 to 5:15 p.m. – Tue. 6/4/13)



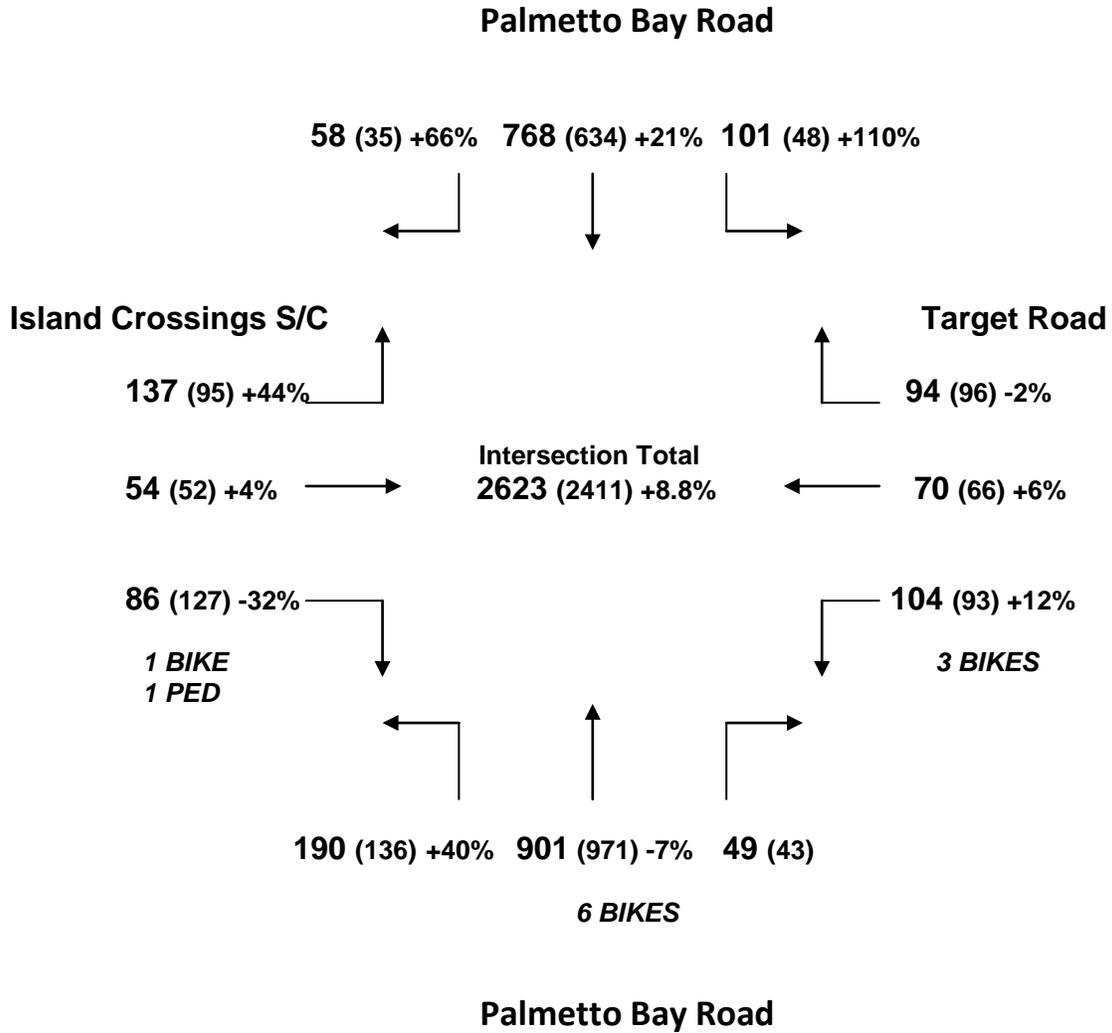
2013 (2012) %chg

**Palmetto Bay Road with Target Road
and Entrance to Island Crossings S/C**
A.M. PEAK HOUR - (8:00 to 9:00 a.m. – Thu. 6/6/13)



2013 (2012) %chg

**Palmetto Bay Road with Target Road
and Entrance to Island Crossings S/C**
P.M. PEAK HOUR - (4:30 to 5:30 p.m. – Thu. 6/6/13)



2013 (2012) %chg

APPENDIX B

LOCATIONS OF 24-HOUR MACHINE COUNTS SUMMARIZED
IN TABLE ONE



APPENDIX C

FEDERAL HIGHWAY ADMINISTRATION REPORT:
TRAFFIC VOLUME TRENDS

JULY 2013



U. S. Department
of Transportation
**Federal Highway
Administration**

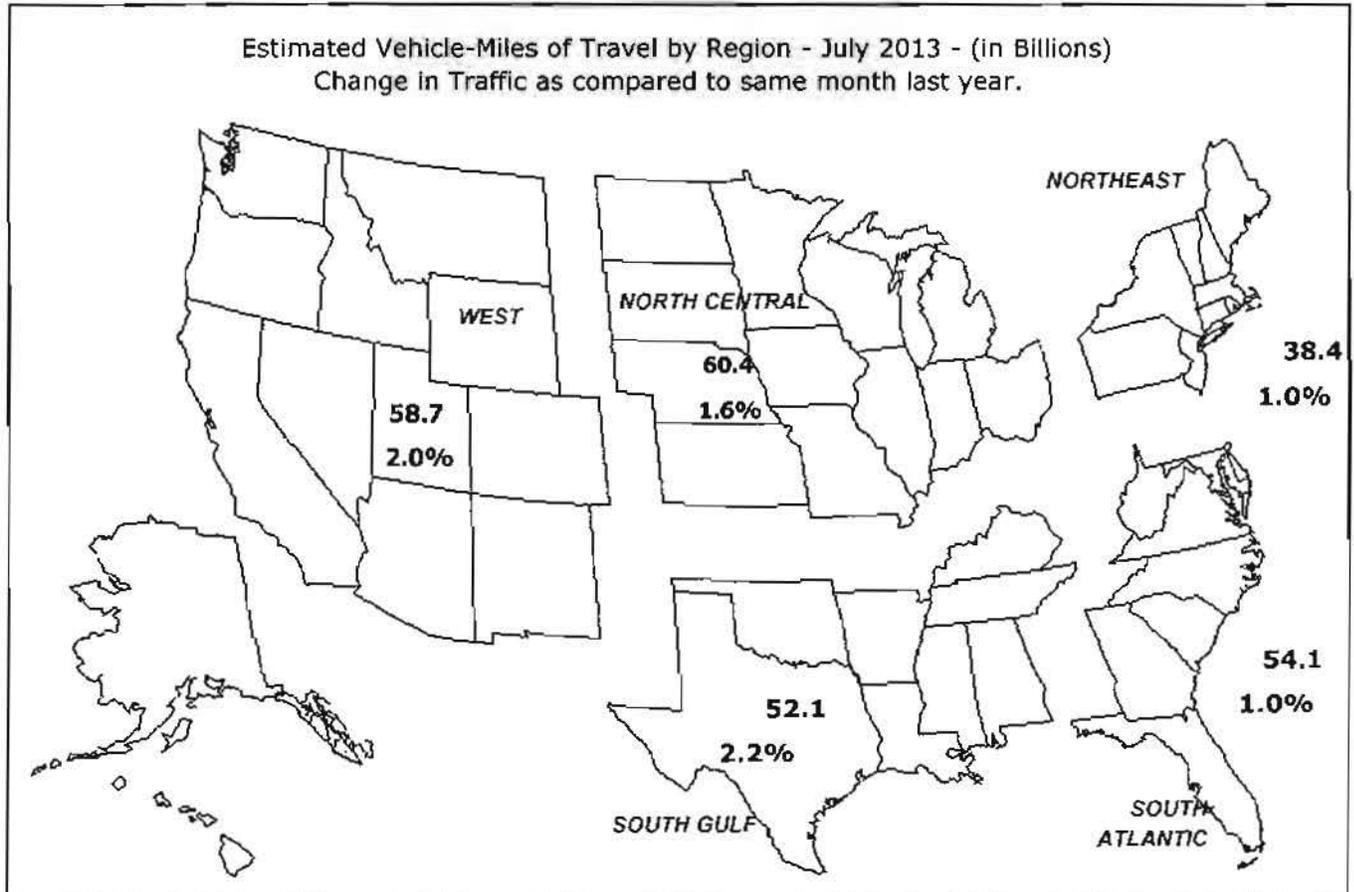
Office of Highway
Policy Information

TRAFFIC VOLUME TRENDS

July 2013

Travel on all roads and streets changed by **+1.6%** (4.2 billion vehicle miles) for July 2013 as compared with July 2012. Travel for the month is estimated to be 263.6 billion vehicle miles.

Cumulative Travel for 2013 changed by **+0.2%** (2.7 billion vehicle miles). The Cumulative estimate for the year is 1,725.3 billion vehicle miles of travel.



Note: All data for this month are preliminary. Revised values for the previous month are shown in Tables 1 and 2
All vehicle-miles of travel computed with Highway Statistics 2011 Table VM-2 as a base.
Compiled with data on hand as of September 18, 2013.

Some historical data were revised based on HPMS and amended TVT data as of December 2011.
For information on total licensed drivers in the U.S., visit <http://www.fhwa.dot.gov/policy/ohpl/hss/hsspubs.htm>.
Select the year of interest then Section III (Driver Licensing).
For information on total registered motor vehicles in the U.S., visit <http://www.fhwa.dot.gov/policy/ohpl/hss/hsspubs.htm>
Select the year of interest and Section II (Motor Vehicles).

Traffic Volume Trends - July 2013

Based on preliminary reports from the State Highway Agencies, travel during July 2013 on all roads and streets in the nation changed by **+1.6 percent** (4.2 billion vehicle miles) resulting in estimated travel for the month at **263.6**** billion vehicle-miles.

This total includes **92.2** billion vehicle-miles on rural roads and **171.4** billion vehicle-miles on urban roads and streets.

Cumulative Travel changed by **+0.2 percent** (2.7 billion vehicle miles).

The larger changes to rural and urban travel are primarily because of the expansion in urban boundaries reflected in the 2000 census. Travel estimates for 2004 and beyond will also reflect this adjustment.

Travel for the current month, the cumulative yearly total, as well as the moving 12-month total on all roads and streets is shown below. Similar totals for each year since 1988 are also included.

Travel in Millions of Vehicle Miles

All Roads and Streets

Year	July	Year to Date	Moving 12-Month
1988	184,779	1,166,778	1,986,431
1989	190,985	1,215,695	2,074,503
1990	195,470	1,249,210	2,140,555
1991	198,387	1,253,637	2,151,928
1992	206,616	1,298,275	2,216,853
1993	209,838	1,326,364	2,275,240
1994	214,778	1,356,007	2,326,348
1995	217,188	1,405,475	2,407,055
1996	225,109	1,428,788	2,446,088
1997	236,713	1,482,368	2,535,782
1998	239,944	1,512,756	2,590,760
1999	243,116	1,536,698	2,649,305
2000	245,140	1,593,494	2,736,255
2001	250,363	1,614,880	2,768,312
2002	256,392	1,652,755	2,833,486
2003	262,105	1,665,799	2,868,554
2004	265,969	1,719,117	2,943,540
2005	267,025	1,741,605	2,987,277
2006	263,442	1,751,981	2,999,806
2007	267,179	1,765,795	3,028,185
2008	262,152	1,740,862	3,006,191
2009	265,026	1,724,091	2,959,757
2010	265,861	1,720,438	2,953,109
2011	260,317	1,708,478	2,955,002
2012	259,443	1,722,538	2,959,875
2013	263,607	1,725,275	2,957,132

Traffic Volume Trends is a monthly report based on hourly traffic count data. These data, collected at approximately 4,000 continuous traffic counting locations nationwide, are used to determine the percent change in traffic for the current month compared to the same month in the previous year. This percent change is applied to the travel for the same month of the previous year to obtain an estimate of travel for the current month. Because of the limited sample sizes, caution should be used with these estimates. The Highway Performance Monitoring System provides more accurate information on an annual basis.

** System entries may not add to give "All Systems" total due to rounding for Page 2 to 8.

Table - 1. Estimated Individual Monthly Motor Vehicle Travel in the United States**

System	Month											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2012 Individual Monthly Vehicle-Miles of Travel in Billions												
Rural Interstate	17.7	17.0	20.2	20.5	21.7	22.0	23.1	23.0	19.7	20.6	20.0	19.6
Rural Other Arterial	27.2	26.6	31.3	30.7	33.2	33.5	34.9	34.7	31.1	32.4	30.3	28.9
Other Rural	26.6	25.5	30.5	30.1	32.0	32.2	32.6	32.7	29.4	31.0	28.2	27.1
Urban Interstate	36.9	35.6	40.9	40.2	42.4	42.7	40.5	42.3	39.1	40.7	39.6	39.3
Urban Other Arterial	81.8	78.8	90.7	88.3	90.8	89.6	89.5	91.9	83.3	90.2	85.1	85.2
Other Urban	35.5	34.2	38.9	38.5	39.8	39.0	38.8	38.9	35.5	38.0	36.7	37.5
All Systems	225.7	217.7	252.5	248.3	259.9	259.0	259.4	263.6	238.0	252.9	239.8	237.6
2013 Individual Monthly Vehicle-Miles of Travel in Billions												
Rural Interstate	17.9	16.9	20.5	20.4	22.2	22.2	23.6					
Rural Other Arterial	27.2	26.2	30.9	30.7	33.3	33.3	35.4					
Other Rural	26.5	25.0	29.8	30.2	32.1	32.1	33.2					
Urban Interstate	37.4	35.3	40.6	40.7	42.8	42.6	41.1					
Urban Other Arterial	82.3	77.6	88.9	90.1	91.6	89.1	90.7					
Other Urban	35.7	33.5	38.2	39.1	40.2	38.9	39.6					
All Systems	227.0	214.5	248.8	251.1	262.1	258.1	263.6					
* Percent Change In Individual Monthly Travel 2012 vs. 2013												
Rural Interstate	1.2	-0.5	1.6	-0.5	2.0	0.8	2.1					
Rural Other Arterial	0.0	-1.4	-1.3	0.0	0.4	-0.6	1.5					
Other Rural	-0.2	-1.8	-2.5	0.4	0.5	-0.4	1.7					
Urban Interstate	1.4	-1.1	-0.7	1.2	1.0	-0.2	1.5					
Urban Other Arterial	0.5	-1.5	-2.0	2.0	0.8	-0.6	1.4					
Other Urban	0.4	-1.9	-2.0	1.5	0.9	-0.4	1.9					
All Systems	0.6	-1.4	-1.5	1.2	0.9	-0.3	1.6					

Table - 2. Estimated Cumulative Monthly Motor Vehicle Travel in the United States**

System	Month											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2012 Cumulative Monthly Vehicle-Miles of Travel in Billions												
Rural Interstate	17.7	34.7	54.8	75.3	97.0	119.1	142.2	165.2	184.9	205.6	225.5	245.2
Rural Other Arterial	27.2	53.8	85.1	115.8	148.9	182.4	217.3	252.0	283.1	315.4	345.7	374.6
Other Rural	26.6	52.0	82.6	112.6	144.6	176.8	209.4	242.2	271.5	302.5	330.7	357.8
Urban Interstate	36.9	72.5	113.4	153.6	196.0	238.7	279.2	321.5	360.6	401.3	440.9	480.2
Urban Other Arterial	81.8	160.6	251.3	339.6	430.4	520.1	609.5	701.5	784.7	874.9	960.0	1045.2
Other Urban	35.5	69.7	108.6	147.2	187.0	226.0	264.9	303.7	339.3	377.3	413.9	451.4
All Systems	225.7	443.4	695.9	944.2	1204.1	1463.1	1722.5	1986.1	2224.1	2477.0	2716.8	2954.4
2013 Cumulative Monthly Vehicle-Miles of Travel in Billions												
Rural Interstate	17.9	34.8	55.3	75.7	97.8	120.1	143.7					
Rural Other Arterial	27.2	53.4	84.3	115.0	148.2	181.5	216.9					
Other Rural	26.5	51.5	81.3	111.5	143.6	175.7	208.9					
Urban Interstate	37.4	72.7	113.3	154.0	196.8	239.4	280.4					
Urban Other Arterial	82.3	159.8	248.7	338.8	430.4	519.5	610.2					
Other Urban	35.7	69.2	107.4	146.5	186.7	225.6	265.2					
All Systems	227.0	441.5	690.3	941.4	1203.5	1461.7	1725.3					
* Percent Change In Cumulative Monthly Travel 2012 vs. 2013												
Rural Interstate	1.2	0.4	0.8	0.5	0.8	0.8	1.0					
Rural Other Arterial	0.0	-0.7	-0.9	-0.7	-0.4	-0.5	-0.2					
Other Rural	-0.2	-1.0	-1.6	-1.0	-0.7	-0.6	-0.3					
Urban Interstate	1.4	0.2	-0.1	0.2	0.4	0.3	0.5					
Urban Other Arterial	0.5	-0.5	-1.0	-0.2	0.0	-0.1	0.1					
Other Urban	0.4	-0.7	-1.2	-0.5	-0.2	-0.2	0.1					
All Systems	0.6	-0.4	-0.8	-0.3	0.0	-0.1	0.2					

*Percent change is based on vehicle travel in millions of miles.

Table - 3. Changes on Rural Arterial Roads by Region and State**

Region and State	July				June			
	Number of Stations	Vehicle-Miles (Millions)		Percent Change	Number of Stations	Vehicle-Miles (Millions)		Percent Change
		2013 (Preliminary)	2012			2013 (Revised)	2012	
Northeast								
Connecticut	6	194	192	0.9	5	185	186	-0.7
Maine	30	575	567	1.4	32	522	531	-1.7
Massachusetts	9	269	253	6.5	9	230	222	3.7
New Hampshire	22	358	358	0.2	21	324	325	-0.4
New Jersey	-	369	370	-0.1	4	334	331	0.9
New York	52	1,487	1,510	-1.5	54	1,311	1,352	-3.1
Pennsylvania	20	2,223	2,207	0.7	32	2,039	2,060	-1.0
Rhode Island	-	66	65	1.7	-	55	55	-0.3
Vermont	41	293	293	0.0	42	247	253	-2.4
Subtotal		5,834	5,815	0.3		5,247	5,315	-1.3
South Atlantic								
Delaware	23	268	264	1.6	25	245	249	-1.6
District of Columbia	-	0	0	0.0	-	0	0	0.0
Florida	100	1,950	1,919	1.6	100	1,963	1,909	2.8
Georgia	67	2,070	2,048	1.1	67	1,764	1,764	0.0
Maryland	27	878	867	1.3	27	836	849	-1.5
North Carolina	21	1,743	1,728	0.9	22	1,681	1,699	-1.0
South Carolina	69	1,551	1,514	2.4	70	1,440	1,427	0.9
Virginia	262	1,954	1,927	1.4	261	1,849	1,866	-0.9
West Virginia	14	607	605	0.3	14	510	527	-3.1
Subtotal		11,021	10,872	1.4		10,288	10,290	0.0
North Central								
Illinois	20	1,657	1,631	1.6	17	1,761	1,809	-2.7
Indiana	-	1,521	1,501	1.4	29	1,351	1,382	-2.3
Iowa	89	1,272	1,248	1.9	88	1,209	1,223	-1.2
Kansas	55	894	880	1.6	56	888	894	-0.7
Michigan	63	1,809	1,803	0.3	61	1,659	1,681	-1.3
Minnesota	-	1,538	1,515	1.5	7	1,474	1,500	-1.7
Missouri	88	1,870	1,840	1.6	82	1,580	1,606	-1.6
Nebraska	36	808	775	4.1	36	761	748	1.7
North Dakota	34	504	502	0.5	35	435	452	-3.7
Ohio	47	1,869	1,825	2.4	47	1,797	1,810	-0.7
South Dakota	31	489	485	0.7	32	466	471	-0.9
Wisconsin	78	1,844	1,808	2.0	76	1,707	1,717	-0.6
Subtotal		16,075	15,813	1.7		15,088	15,293	-1.3
South Gulf								
Alabama	55	1,573	1,563	0.6	51	1,558	1,544	0.9
Arkansas	-	1,143	1,113	2.7	-	1,093	1,083	0.9
Kentucky	-	1,364	1,348	1.3	17	1,641	1,681	-2.4
Louisiana	15	1,145	1,073	6.7	15	1,119	1,068	4.8
Mississippi	30	1,185	1,155	2.6	31	1,099	1,093	0.5
Oklahoma	-	1,246	1,213	2.7	-	1,176	1,165	1.0
Tennessee	15	1,799	1,785	0.8	22	1,745	1,739	0.4
Texas	110	4,538	4,410	2.9	109	4,368	4,318	1.2
Subtotal		13,993	13,660	2.4		13,799	13,691	0.8
West								
Alaska	36	153	147	3.8	36	137	136	1.0
Arizona	36	1,065	1,049	1.6	38	1,094	1,085	0.8
California	37	4,088	3,976	2.8	42	3,569	3,516	1.5
Colorado	56	1,008	1,003	0.5	50	974	952	2.3
Hawaii	8	114	110	3.2	7	107	105	2.2
Idaho	95	561	552	1.6	107	501	493	1.7
Montana	49	710	702	1.1	51	603	602	0.2
Nevada	31	401	394	1.9	32	377	374	0.9
New Mexico	42	818	813	0.6	42	745	746	-0.1
Oregon	104	1,083	1,061	2.1	105	986	965	2.2
Utah	44	572	556	3.0	45	533	524	1.5
Washington	39	1,057	1,044	1.3	41	992	973	2.0
Wyoming	99	499	489	2.0	29	447	450	-0.6
Subtotal		12,129	11,896	2.0		11,065	10,921	1.3
TOTALS	2,205	59,052	58,056	1.7	2,221	55,487	55,510	0.0

Note: Where Number of Stations are shown as dashes, the values for the Vehicle-Miles and Percent Change are derived from the estimated VMT based on data from surrounding States or the nationwide average VMT.

Table - 4. Changes on Urban Arterial Roads by Region and State**

Region and State	July				June			
	Number of Stations	Vehicle-Miles (Millions)		Percent Change	Number of Stations	Vehicle-Miles (Millions)		Percent Change
		2013 (Preliminary)	2012			2013 (Revised)	2012	
Northeast								
Connecticut	27	1,998	1,973	1.3	21	1,915	1,924	-0.5
Maine	4	244	245	-0.5	4	227	229	-1.0
Massachusetts	50	3,671	3,635	1.0	49	3,441	3,473	-0.9
New Hampshire	24	499	494	0.9	23	494	496	-0.5
New Jersey	-	4,351	4,321	0.7	20	4,528	4,593	-1.4
New York	86	6,150	6,181	-0.5	85	6,296	6,380	-1.3
Pennsylvania	9	4,379	4,294	2.0	23	4,132	4,223	-2.1
Rhode Island	39	579	569	1.7	39	530	531	-0.3
Vermont	14	113	112	1.1	16	101	102	-1.0
Subtotal		21,984	21,824	0.7		21,664	21,951	-1.3
South Atlantic								
Delaware	13	422	411	2.6	15	407	412	-1.1
District of Columbia	1	163	151	7.8	1	213	212	0.2
Florida	135	8,666	8,623	0.5	136	8,590	8,552	0.4
Georgia	111	4,000	3,977	0.6	110	4,170	4,216	-1.1
Maryland	38	3,139	3,107	1.0	39	3,188	3,224	-1.1
North Carolina	23	4,203	4,136	1.6	23	4,044	4,080	-0.9
South Carolina	44	1,699	1,664	2.1	41	1,722	1,720	0.1
Virginia	338	3,640	3,605	1.0	340	3,546	3,600	-1.5
West Virginia	11	633	622	1.7	6	553	587	-5.8
Subtotal		26,565	26,296	1.0		26,433	26,603	-0.6
North Central								
Illinois	39	4,841	4,842	0.0	38	5,744	5,874	-2.2
Indiana	-	2,451	2,434	0.7	29	2,575	2,588	-0.5
Iowa	29	798	800	-0.3	29	786	803	-2.2
Kansas	17	990	976	1.5	17	971	984	-1.4
Michigan	50	4,547	4,461	1.9	51	4,278	4,277	0.0
Minnesota	-	2,237	2,174	2.9	20	2,193	2,240	-2.1
Missouri	67	2,497	2,474	0.9	65	2,461	2,497	-1.4
Nebraska	14	550	544	1.1	14	541	551	-1.8
North Dakota	9	158	156	0.9	9	147	148	-0.4
Ohio	76	4,593	4,558	0.8	71	4,474	4,603	-2.6
South Dakota	10	175	170	3.3	9	174	172	1.5
Wisconsin	47	2,131	2,056	3.7	48	1,978	1,985	-0.4
Subtotal		25,968	25,645	1.3		26,322	26,722	-1.5
South Gulf								
Alabama	41	1,829	1,824	0.3	39	1,930	1,950	-1.0
Arkansas	-	1,068	1,051	1.6	-	986	997	-0.8
Kentucky	-	1,253	1,245	0.6	9	1,418	1,443	-1.7
Louisiana	13	1,849	1,877	-1.5	13	1,890	1,984	-4.7
Mississippi	27	968	961	0.7	25	972	984	-1.2
Oklahoma	-	1,693	1,649	2.7	-	1,551	1,544	0.5
Tennessee	7	2,893	2,842	1.8	8	2,772	2,827	-1.9
Texas	86	12,077	11,745	2.8	85	11,658	11,580	0.7
Subtotal		23,630	23,194	1.9		23,179	23,309	-0.6
West								
Alaska	42	172	172	-0.4	40	166	169	-1.7
Arizona	19	2,684	2,597	3.4	18	3,022	3,036	-0.5
California	67	20,067	19,755	1.6	54	20,847	20,549	1.4
Colorado	24	2,096	2,011	4.2	21	2,029	1,995	1.7
Hawaii	42	409	399	2.5	36	398	395	0.9
Idaho	65	473	459	3.0	78	451	445	1.4
Montana	5	246	238	3.2	6	200	198	1.0
Nevada	25	1,016	1,009	0.7	24	949	955	-0.7
New Mexico	29	711	709	0.4	29	628	633	-0.8
Oregon	39	1,297	1,268	2.3	41	1,217	1,200	1.4
Utah	45	1,155	1,124	2.8	45	1,050	1,056	-0.5
Washington	27	3,177	3,088	2.9	29	2,991	2,926	2.2
Wyoming	36	146	146	0.1	9	134	136	-2.1
Subtotal		33,649	32,975	2.0		34,082	33,693	1.2
TOTALS	1,964	131,796	129,934	1.4	2,000	131,680	132,278	-0.5

Note: Where Number of Stations are shown as dashes, the values for the Vehicle-Miles and Percent Change are derived from the estimated VMT based on data from surrounding States or the nationwide average VMT.

Table - 5. Changes on ALL* Estimated Roads by Region and State**

Region and State	July				June			
	Number of Stations	Vehicle-Miles (Millions)		Percent Change	Number of Stations	Vehicle-Miles (Millions)		Percent Change
		2013 (Preliminary)	2012			2013 (Revised)	2012	
Northeast								
Connecticut	34	2,822	2,789	1.2	27	2,708	2,721	-0.5
Maine	48	1,343	1,339	0.3	50	1,268	1,288	-1.5
Massachusetts	59	5,013	4,946	1.4	58	4,691	4,721	-0.6
New Hampshire	50	1,200	1,191	0.7	48	1,141	1,147	-0.5
New Jersey	-	6,263	6,191	1.2	24	6,362	6,442	-1.2
New York	156	11,197	11,205	-0.1	156	10,862	10,999	-1.2
Pennsylvania	36	9,058	8,876	2.1	69	8,468	8,650	-2.1
Rhode Island	39	785	772	1.7	39	696	698	-0.3
Vermont	70	719	713	0.8	73	599	609	-1.7
Subtotal		38,400	38,022	1.0		36,795	37,275	-1.3
South Atlantic								
Delaware	61	972	953	2.1	68	915	928	-1.4
District of Columbia	1	230	213	7.8	1	301	301	0.2
Florida	243	15,894	15,953	-0.4	244	16,031	16,041	-0.1
Georgia	217	9,487	9,256	2.5	216	9,077	9,061	0.2
Maryland	66	4,989	4,936	1.1	68	5,053	5,101	-0.9
North Carolina	65	9,260	9,103	1.7	65	8,913	8,990	-0.9
South Carolina	121	4,407	4,323	2.0	119	4,281	4,262	0.4
Virginia	614	7,177	7,142	0.5	615	6,960	7,049	-1.3
West Virginia	32	1,688	1,673	0.9	23	1,469	1,539	-4.5
Subtotal		54,104	53,552	1.0		53,000	53,272	-0.5
North Central								
Illinois	66	8,984	8,897	1.0	62	10,101	10,373	-2.6
Indiana	-	6,898	6,787	1.6	71	6,574	6,638	-1.0
Iowa	142	2,871	2,854	0.6	143	2,823	2,892	-2.4
Kansas	81	2,683	2,641	1.6	82	2,614	2,656	-1.6
Michigan	115	8,447	8,324	1.5	114	8,376	8,430	-0.6
Minnesota	-	5,096	4,993	2.1	30	5,104	5,208	-2.0
Missouri	163	6,290	6,228	1.0	155	5,908	6,013	-1.7
Nebraska	59	1,785	1,737	2.7	59	1,722	1,720	0.1
North Dakota	47	943	956	-1.4	49	845	884	-4.4
Ohio	138	10,201	9,996	2.1	133	9,758	9,861	-1.0
South Dakota	47	928	911	1.8	48	842	846	-0.4
Wisconsin	129	5,225	5,065	3.2	128	4,908	4,966	-1.2
Subtotal		60,351	59,389	1.6		59,575	60,487	-1.5
South Gulf								
Alabama	100	5,634	5,568	1.2	94	5,783	5,761	0.4
Arkansas	-	3,086	3,021	2.2	-	2,947	2,940	0.3
Kentucky	-	3,681	3,641	1.1	36	4,290	4,377	-2.0
Louisiana	40	4,140	4,073	1.6	40	4,160	4,205	-1.1
Mississippi	63	3,576	3,498	2.2	62	3,445	3,455	-0.3
Oklahoma	-	4,365	4,246	2.8	-	4,107	4,081	0.6
Tennessee	28	6,436	6,358	1.2	37	6,186	6,174	0.2
Texas	223	21,166	20,567	2.9	220	20,483	20,300	0.9
Subtotal		52,084	50,972	2.2		51,401	51,293	0.2
West								
Alaska	83	458	449	1.9	81	430	431	-0.2
Arizona	70	4,909	4,793	2.4	72	5,424	5,443	-0.4
California	104	28,716	28,207	1.8	96	28,893	28,476	1.5
Colorado	82	3,982	3,865	3.0	71	3,844	3,773	1.9
Hawaii	54	895	868	3.0	45	832	819	1.6
Idaho	171	1,581	1,553	1.9	195	1,457	1,437	1.5
Montana	64	1,435	1,393	3.1	66	1,185	1,178	0.6
Nevada	63	2,079	2,061	0.9	66	1,958	1,964	-0.3
New Mexico	81	2,328	2,329	-0.1	81	2,046	2,069	-1.1
Oregon	151	3,281	3,205	2.4	154	2,996	2,940	1.9
Utah	94	2,396	2,325	3.1	95	2,238	2,224	0.6
Washington	66	5,659	5,522	2.5	71	5,215	5,111	2.0
Wyoming	155	948	935	1.3	39	845	853	-0.9
Subtotal		58,667	57,505	2.0		57,363	56,718	1.1
TOTALS	4,591	263,607	259,443	1.6	4,658	258,137	259,042	-0.3

Note: Where Number of Stations are shown as dashes, the values for the Vehicle-Miles and Percent Change are derived from the estimated VMT based on data from surrounding States or the nationwide average VMT. * All Estimated roads include travel from Table 3 and 4 plus remaining roads

Table - 6. Estimated Rural Vehicle Miles (Millions) and Percent Change from Same Period Previous Year**

Year - 2012														
	Rural Interstate	%	Rural Other Arterial	%	Other Rural	%	Total Rural	%	All Systems	%				
Jan	17,710	0.7	Jan	27,190	1.2	Jan	26,561	1.0	Jan	71,461	1.0	Jan	225,714	1.3
Feb	16,969	2.2	Feb	26,597	2.0	Feb	25,467	1.8	Feb	69,033	2.0	Feb	217,656	1.9
Mar	20,165	1.1	Mar	31,293	2.0	Mar	30,541	1.5	Mar	81,999	1.6	Mar	252,535	0.8
Q1	54,843	1.3	Q1	85,080	1.7	Q1	82,569	1.4	Q1	222,493	1.5	Q1	695,904	1.3
Apr	20,487	-0.3	Apr	30,670	0.2	Apr	30,052	-0.5	Apr	81,209	-0.2	Apr	248,261	-0.4
May	21,716	2.4	May	33,158	3.0	May	31,993	2.0	May	86,867	2.5	May	259,888	2.3
Jun	22,027	2.8	Jun	33,483	0.8	Jun	32,214	0.1	Jun	87,723	1.0	Jun	259,042	0.4
Q2	64,230	1.7	Q2	97,311	1.4	Q2	94,259	0.6	Q2	255,799	1.1	Q2	767,191	0.8
1st Half	119,073	1.5	1st Half	182,391	1.6	1st Half	176,828	1.0	1st Half	478,292	1.3	1st Half	1,463,095	1.0
Jul	23,143	-1.0	Jul	34,910	-0.9	Jul	32,616	-1.2	Jul	90,669	-1.0	Jul	259,443	-0.3
Aug	23,018	2.7	Aug	34,713	1.2	Aug	32,725	1.2	Aug	90,456	1.6	Aug	263,601	1.1
Sep	19,687	-2.0	Sep	31,059	-1.9	Sep	29,364	-1.4	Sep	80,110	-1.8	Sep	237,970	-1.6
Q3	65,848	0.0	Q3	100,682	-0.5	Q3	94,704	-0.4	Q3	261,235	-0.4	Q3	761,013	-0.2
Oct	20,638	-0.6	Oct	32,359	-0.6	Oct	31,006	-0.2	Oct	84,003	-0.4	Oct	252,899	0.3
Nov	19,991	1.5	Nov	30,268	1.0	Nov	28,195	0.7	Nov	78,454	1.1	Nov	239,791	0.6
Dec	19,630	-1.4	Dec	28,950	-2.6	Dec	27,063	-3.2	Dec	75,642	-2.5	Dec	237,595	-2.9
Q4	60,259	-0.2	Q4	91,577	-0.7	Q4	86,264	-0.9	Q4	238,099	-0.6	Q4	730,286	-0.6
2nd Half	126,107	-0.1	2nd Half	192,259	-0.6	2nd Half	180,968	-0.6	2nd Half	499,334	-0.5	2nd Half	1,491,299	-0.4
Year	245,180	0.7	Year	374,650	0.4	Year	357,796	0.1	Year	977,626	0.4	Year	2,954,394	0.3

Year - 2013														
	Rural Interstate	%	Rural Other Arterial	%	Other Rural	%	Total Rural	%	All Systems	%				
Jan	17,928	1.2	Jan	27,185	0.0	Jan	26,516	-0.2	Jan	71,629	0.2	Jan	226,983	0.6
Feb	16,888	-0.5	Feb	26,231	-1.4	Feb	24,998	-1.8	Feb	68,116	-1.3	Feb	214,505	-1.4
Mar	20,485	1.6	Mar	30,887	-1.3	Mar	29,767	-2.5	Mar	81,139	-1.0	Mar	248,795	-1.5
Q1	55,302	0.8	Q1	84,302	-0.9	Q1	81,280	-1.6	Q1	220,884	-0.7	Q1	690,283	-0.8
Apr	20,384	-0.5	Apr	30,669	0.0	Apr	30,184	0.4	Apr	81,237	0.0	Apr	251,126	1.2
May	22,158	2.0	May	33,275	0.4	May	32,147	0.5	May	87,580	0.8	May	262,122	0.9
Jun	22,211	0.8	Jun	33,276	-0.6	Jun	32,081	-0.4	Jun	87,568	-0.2	Jun	258,137	-0.3
Q2	64,753	0.8	Q2	97,220	-0.1	Q2	94,412	0.2	Q2	256,385	0.2	Q2	771,385	0.5
1st Half	120,055	0.8	1st Half	181,522	-0.5	1st Half	175,692	-0.6	1st Half	477,269	-0.2	1st Half	1,461,668	-0.1
Jul	23,629	2.1	Jul	35,424	1.5	Jul	33,180	1.7	Jul	92,233	1.7	Jul	263,607	1.6
Aug			Aug			Aug			Aug			Aug		
Sep			Sep			Sep			Sep			Sep		
Q3	23,629	2.1	Q3	35,424	1.5	Q3	33,180	1.7	Q3	92,233	1.7	Q3	263,607	1.6
Oct			Oct			Oct			Oct			Oct		
Nov			Nov			Nov			Nov			Nov		
Dec			Dec			Dec			Dec			Dec		
Q4		0.0	Q4		0.0	Q4		0.0	Q4		0.0	Q4		0.0
2nd Half	23,629	2.1	2nd Half	35,424	1.5	2nd Half	33,180	1.7	2nd Half	92,233	1.7	2nd Half	263,607	1.6
Year	143,684	1.0	Year	216,946	-0.2	Year	208,873	-0.3	Year	569,503	0.1	Year	1,725,275	0.2

Table - 7. Estimated Urban Vehicle Miles (Millions) and Percent Change from Same Period Previous Year**

Year - 2012														
Urban Interstate %		Urban Other Arterial %		Other Urban %		Total Urban %		All Systems %						
Jan	36,911	2.0	Jan	81,838	1.3	Jan	35,503	1.6	Jan	154,252	1.5	Jan	225,714	1.3
Feb	35,634	3.0	Feb	78,794	1.6	Feb	34,194	1.5	Feb	148,623	1.9	Feb	217,656	1.9
Mar	40,897	0.6	Mar	90,694	0.5	Mar	38,945	0.2	Mar	170,536	0.5	Mar	252,535	0.8
Q1	113,443	1.8	Q1	251,326	1.1	Q1	108,643	1.1	Q1	473,412	1.3	Q1	695,904	1.3
Apr	40,188	0.1	Apr	88,316	-0.6	Apr	38,548	-1.1	Apr	167,053	-0.5	Apr	248,261	-0.4
May	42,400	2.5	May	90,807	2.2	May	39,814	1.7	May	173,020	2.1	May	259,888	2.3
Jun	42,660	0.7	Jun	89,615	-0.1	Jun	39,043	-0.2	Jun	171,319	0.1	Jun	259,042	0.4
Q2	125,249	1.1	Q2	268,738	0.5	Q2	117,405	0.1	Q2	511,392	0.6	Q2	767,191	0.8
1st Half	238,691	1.4	1st Half	520,064	0.8	1st Half	226,048	0.6	1st Half	984,804	0.9	1st Half	1,463,095	1.0
Jul	40,472	0.4	Jul	89,463	0.0	Jul	38,838	-0.3	Jul	168,773	0.0	Jul	259,443	-0.3
Aug	42,347	2.1	Aug	91,947	0.6	Aug	38,852	0.4	Aug	173,145	0.9	Aug	263,601	1.1
Sep	39,091	-1.0	Sep	83,250	-1.5	Sep	35,518	-1.8	Sep	157,860	-1.5	Sep	237,970	-1.6
Q3	121,909	0.5	Q3	264,660	-0.3	Q3	113,209	-0.5	Q3	499,778	-0.1	Q3	761,013	-0.2
Oct	40,692	0.6	Oct	90,206	0.5	Oct	37,998	1.3	Oct	168,896	0.7	Oct	252,899	0.3
Nov	39,583	0.3	Nov	85,104	0.3	Nov	36,651	0.8	Nov	161,338	0.4	Nov	239,791	0.6
Dec	39,285	-2.3	Dec	85,188	-3.2	Dec	37,479	-3.5	Dec	161,953	-3.0	Dec	237,595	-2.9
Q4	119,560	-0.4	Q4	260,499	-0.8	Q4	112,128	-0.5	Q4	492,187	-0.6	Q4	730,286	-0.6
2nd Half	241,469	0.0	2nd Half	525,159	-0.5	2nd Half	225,337	-0.5	2nd Half	991,965	-0.4	2nd Half	1,491,299	-0.4
Year	480,160	0.7	Year	1,045,223	0.1	Year	451,385	0.0	Year	1,976,768	0.2	Year	2,954,394	0.3

Year - 2013														
Urban Interstate %		Urban Other Arterial %		Other Urban %		Total Urban %		All Systems %						
Jan	37,436	1.4	Jan	82,262	0.5	Jan	35,656	0.4	Jan	155,354	0.7	Jan	226,983	0.6
Feb	35,253	-1.1	Feb	77,586	-1.5	Feb	33,550	-1.9	Feb	146,389	-1.5	Feb	214,505	-1.4
Mar	40,599	-0.7	Mar	88,892	-2.0	Mar	38,166	-2.0	Mar	167,656	-1.7	Mar	248,795	-1.5
Q1	113,288	-0.1	Q1	248,740	-1.0	Q1	107,371	-1.2	Q1	469,399	-0.8	Q1	690,283	-0.8
Apr	40,672	1.2	Apr	90,083	2.0	Apr	39,134	1.5	Apr	169,889	1.7	Apr	251,126	1.2
May	42,804	1.0	May	91,554	0.8	May	40,185	0.9	May	174,542	0.9	May	262,122	0.9
Jun	42,593	-0.2	Jun	89,087	-0.6	Jun	38,889	-0.4	Jun	170,569	-0.4	Jun	258,137	-0.3
Q2	126,069	0.7	Q2	270,724	0.7	Q2	118,208	0.7	Q2	515,000	0.7	Q2	771,385	0.5
1st Half	239,357	0.3	1st Half	519,463	-0.1	1st Half	225,579	-0.2	1st Half	984,399	0.0	1st Half	1,461,668	-0.1
Jul	41,089	1.5	Jul	90,706	1.4	Jul	39,578	1.9	Jul	171,374	1.5	Jul	263,607	1.6
Aug			Aug			Aug			Aug			Aug		
Sep			Sep			Sep			Sep			Sep		
Q3	41,089	1.5	Q3	90,706	1.4	Q3	39,578	1.9	Q3	171,374	1.5	Q3	263,607	1.6
Oct			Oct			Oct			Oct			Oct		
Nov			Nov			Nov			Nov			Nov		
Dec			Dec			Dec			Dec			Dec		
Q4		0.0	Q4		0.0	Q4		0.0	Q4		0.0	Q4		0.0
2nd Half	41,089	1.5	2nd Half	90,706	1.4	2nd Half	39,578	1.9	2nd Half	171,374	1.5	2nd Half	263,607	1.6
Year	280,446	0.5	Year	610,169	0.1	Year	265,157	0.1	Year	1,155,773	0.2	Year	1,725,275	0.2

Figure - 1. Moving 12-Month Total on ALL Roads

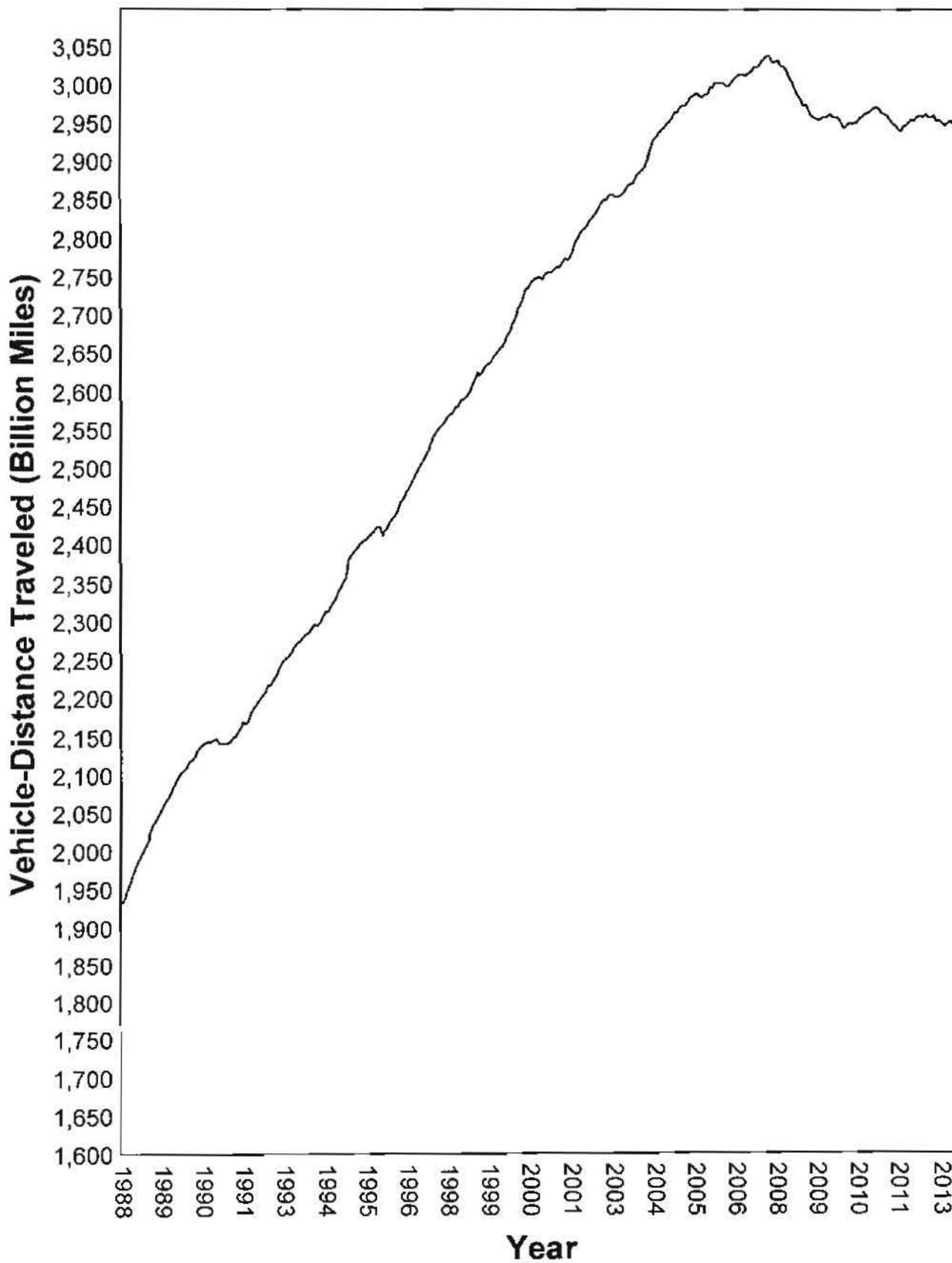
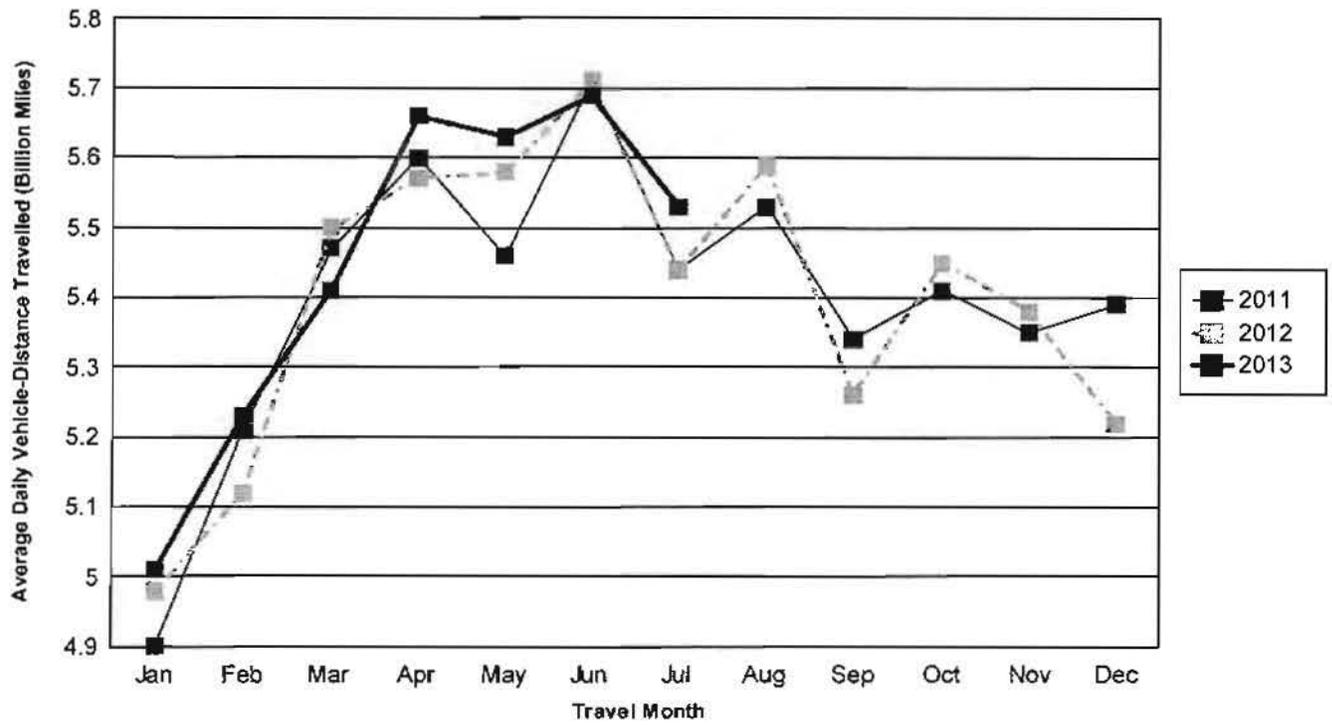


Figure - 2. Travel on U.S. Highways by Month

Urban Highways



Rural Highways

