

## **APPENDIX A**

### **Walkability Index Technical Memo**



HPE Technical Memorandum  
**Walkability Index**

Prepared by

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## INTRODUCTION

Measuring a study area's street "walkability" is basic to assessing total mobility. Important to this effort is utilizing walkability index data for both existing and proposed conditions.

## WALKABILITY INDEX DESIGN

For HPE's walkability index, eleven criteria have been selected to indicate quality of the walking experience, as follows:

### Street Design

#### 1. *Non-Peak Hour Free Flow Speed*

Posted speed and actual vehicle speed can vary. Non-peak hour free flow speed is actual speed, measured with a speed gun or other device, during a period of moderate to high pedestrian activity---taken during a period other than the AM, noon, or PM peak hours.

##### Walkability Measure

The measure of posted speed is:

- ≤ 15 mph
- 16-25 mph**
- 26-30 mph**
- >30 mph

#### 2. *Street Width at Pedestrian Crossing*

According to pedestrian studies, most pedestrians walk at approximately 4.0 feet/second; elderly persons walk at 3.0 feet/second. The narrower the street, the less time a pedestrian is exposed to vehicular traffic and uncomfortable asphalt. Pedestrians can easily negotiate a two-lane, low speed roadway. Crossing wide multi-lane roadways can be problematic.

##### Walkability Measure

The measure for pedestrian crossing width—**measure from curb face to curb face**—is:

- ≤ 30'
- 31' - 36'**
- 37' - 40'**
- 41' - 60'**
- >60'

#### 3. *Presence of (Occupied) On-Street Parking*

On-street parking (either parallel or angle parking) is important, not only to help distribute the parking load, but also to control traffic speed. The measure here is not only the presence of striped parking spaces, but of **occupied** parking spaces.

Walkability Measure

The measure for on-street parking presence is **occupied** parking spaces on:

- 76% - 100%** of the block face
- 51% - 75%** of the block face
- 26% - 50%** of the block face
- 10% - 25%** of the block face
- No on-street parking**

**Sidewalk Design**

*4. Sidewalk Width*

To function properly, sidewalks should be sized to accommodate the walking environment. For example, in an urban core, urban center or general urban transect zone (see transect description in **Attachment A2**), sidewalks should typically be at least 8 feet wide—and, often, greater width is desirable. In a low density residential environment, a 4 foot wide sidewalk might be sufficient.

Walkability Measure

The measures for sidewalk width are:

<b>T3</b>	<b>T4</b>	<b>T5</b>	<b>T6</b>
<b>Sub-urban</b>	<b>General Urban</b>	<b>Urban Center</b>	<b>Urban Core</b>
>5'	>6'	>12'	>20'
>4' to 5'	>5' to 6'	>8' to 12'	>12' to 20'
>3' to 4'	>4' to 5'	>5' to 8'	>8' to 12'
≤3'	≤4'	≤5'	≤8'

*5. Pedestrian Connectivity*

A high-quality pedestrian network provides ease of walking and access through short (300' – 400') blocks and/or mid-block pedestrian alleys.

Walkability Measure

The measure for pedestrian connectivity is distance between intersections or cross-block passages:

- 300' or less**
- 301' to 400'**
- 401' to 500'**
- 501' to 600'**
- Over 600'**

6. *Presence and Quality of Pedestrian Features*

This measure considers the presence—or lack—of high quality pedestrian features such as good sidewalk condition, lack of obstacles, ADA compliance, shade trees, and street furniture.

Walkability Measure

**High quality** (High presence of the qualitative measures)

**Moderate quality** (Qualitative measures are present, but not to a large extent)

**Low quality** (Some, but not many, of the qualitative measures are present)

**Poor quality, or no pedestrian features**

Urban Design

7. *Street Enclosure*

To provide a comfortable environment for pedestrians, the ratio of building height to street width (**measured from building face to building face**) to should provide a feeling of “enclosure”. Building height can be estimated utilizing 10’ per floor.

Walkability Measure

Building height to street width ratios are.

**<1:1**

**1:1 to <1:3**

**1:3 to 1:6**

**>1:6**

8. *Land Use Mix*

People are most likely to walk when there is a specific and easily accessible place to go. The land use mix criterion utilizes the mix of different kinds of land uses on a block face, such as retail, eating and drinking, hotel, and residential land uses. Land use mix is scored for the appropriate transect (see transect description in **Attachment A2**):

Walkability Measure

The measure for land use mix is the number of different types of land uses per block face:

<b>T4</b>	<b>T5</b>	<b>T6</b>
<b>General Urban</b>	<b>Urban Center</b>	<b>Urban Core</b>
3+	4+	4+
2	3	3
1	2	2
N/A	1	1

### 9. Façade Design

Building facades that are varied, attractive and interesting are attractive to pedestrians.

#### Walkability Measure\*

**Small units; many doors (15-20 doors/block face); lots of character**  
**Small units; many doors (10-14 doors/block face); many details**  
**Mix of large and small units (6-9 doors/block face); few details**  
**Large units; little variation (2-5 doors/block face); few or no details**  
**Large units; few or no doors (0-1 doors/block face); uniform facade**

\*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

### 10. Transit and/or Bicycle Features

Transit and bicycle features assure other non-automotive components of mobility are satisfied. A high-quality transit/bicycle environment will provide for safe travel via slow traffic speeds (20 mph or less) and transit/bicycle features:

#### Walkability Measure

**Presence of special bus/bicycle features (e.g. bus shelters and bike lockers)**  
**Presence of bus stops and bicycle racks**  
**Presence of bus stops or bicycle racks only**  
**No bus stops or bicycle racks**

## WALKABILITY INDEX APPLICATION

Each study area street segment will be analyzed for walkability as follows:

1. A walking field survey will be conducted utilizing the “walkability index data sheet” (see **Appendix A1**). Each of the 10 walkability measures will be noted (where % applicability is called for, an on-the-scene estimate is acceptable).
2. A total score for each street segment will be calculated and the result will be correlated with walkability:
  - 90 – 100 points High walkability
  - 70 – 89 points Very walkable
  - 50 – 69 points Moderately walkable
  - 30 – 49 points Basic walkability
  - 20 – 29 points Minimal walkability
  - 19 points or less Uncomfortable/hazardous for walking

3. Walkability results for each street segment should be mapped as follows (see example in **Attachment A3**):

- Green                    High walkability
- Yellow green        Very walkable
- Yellow                Moderately walkable
- Orange                Basic walkability
- Red                    Unfriendly to walking

**ATTACHMENT A1**

**Walkability Index Data Sheet**



Value    Score Side A    Total Score    Score Side B

**URBAN DESIGN (MAXIMUM SCORE 30 POINTS)**

**7 Street Enclosure: Ratio of building height to street width [building face to building face]**

<1:1	10
1:1 to <1:3	8
1:3 to 1:6	6
>1:6	0

10

Segment Total    10

**8 Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, offices, hotels and residential units (Score for appropriate transect)**

T4	T5	T6	
3+	4+	4+	5
2	3	3	3
1	2	2	2
N/A	1	1	0

5

5

Segment Total    10

**9 Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians\***

Small building fronts; 15-20 doors/block face; lots of character	5
Small building fronts; 10-14 doors/block face, many details	4
Mix of large & small building fronts; 6-9 doors/block face; few details	3
Large building fronts; little variation; 2-5 doors/block face; few or no details	1
Large building fronts; 0-1 doors/block face; uniform façade	0

5

5

Segment Total    10

\*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefer and Solvejg Reigstad

**TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)**

**10 Transit and/or Bicycle Features**

Presence of bus stops and bicycle racks	10
Presence of bus stops or bicycle racks only	5
No bus stops or bicycle racks	0

10

Segment Total    10

Walkability Scoring	
90 - 100 points	High Walkability (A)
70 - 89 points	Very Walkable (B)
50 - 69 points	Moderately Walkable (C)
30 - 49 points	Basic Walkability (D)
20 - 29 points	Minimal Walkability (E)
19 points or less	Uncomfortable/hazardous for Walking (F)

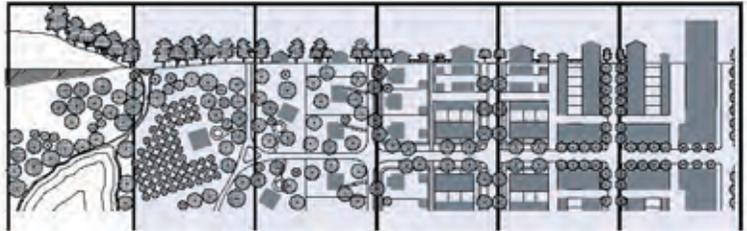
**TOTAL WALKABILITY SCORE**

100
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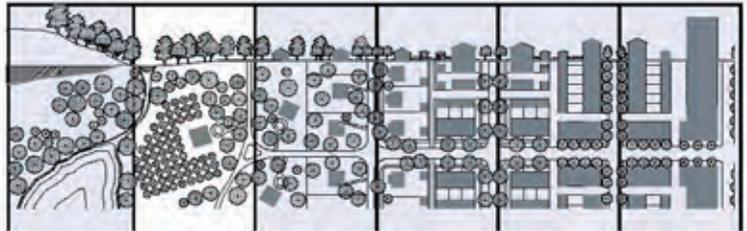
## **ATTACHMENT A2**

### **Transect Description**

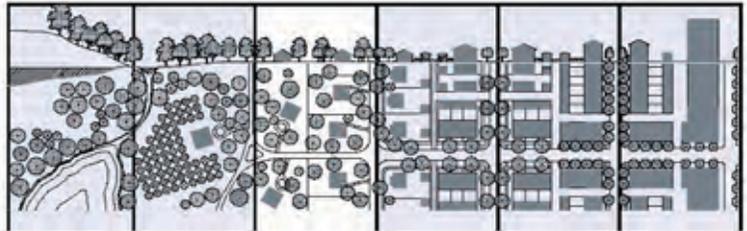
**T1** THE NATURAL ZONE consists of lands approximating or reverting to a wilderness condition, including lands unsuitable for settlement due to topography, hydrology or vegetation.



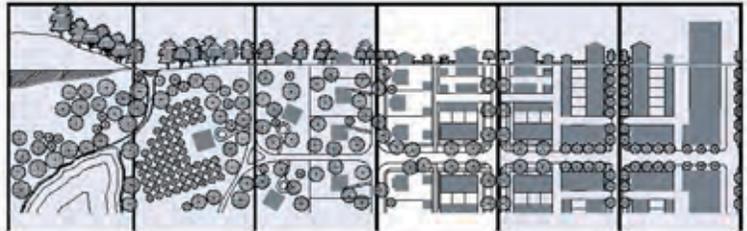
**T2** THE RURAL ZONE consists of lands in open or cultivated state or sparsely settled. These include woodland, agricultural lands, grasslands and irrigable deserts.



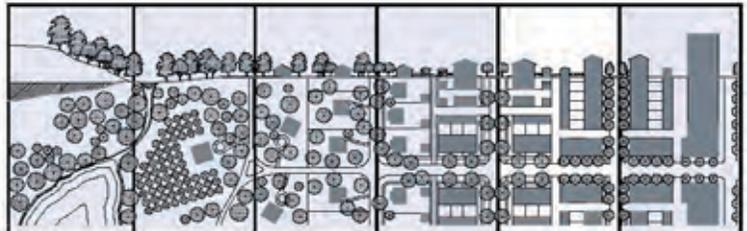
**T3** THE SUB-URBAN ZONE, consists of low density suburban residential areas, differing by allowing home occupations. Planting is naturalistic with setbacks relatively deep. Blocks may be large and the roads irregular to accommodate natural conditions.



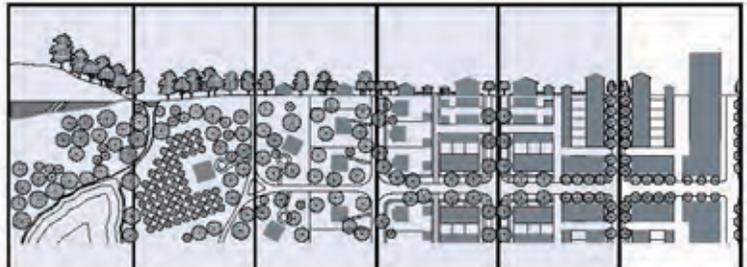
**T4** THE GENERAL URBAN ZONE consists of a mixed-use but primarily residential urban fabric. It has a wide range of building types: single, sideyard, and rowhouses. Setbacks and landscaping are variable. Streets typically define medium-sized blocks.



**T5** THE URBAN CENTER ZONE consists of higher density mixed-use building types that accommodate retail, offices, rowhouses and apartments. It has a tight network of streets, with wide sidewalks, steady street tree planting and buildings set close to the frontages.

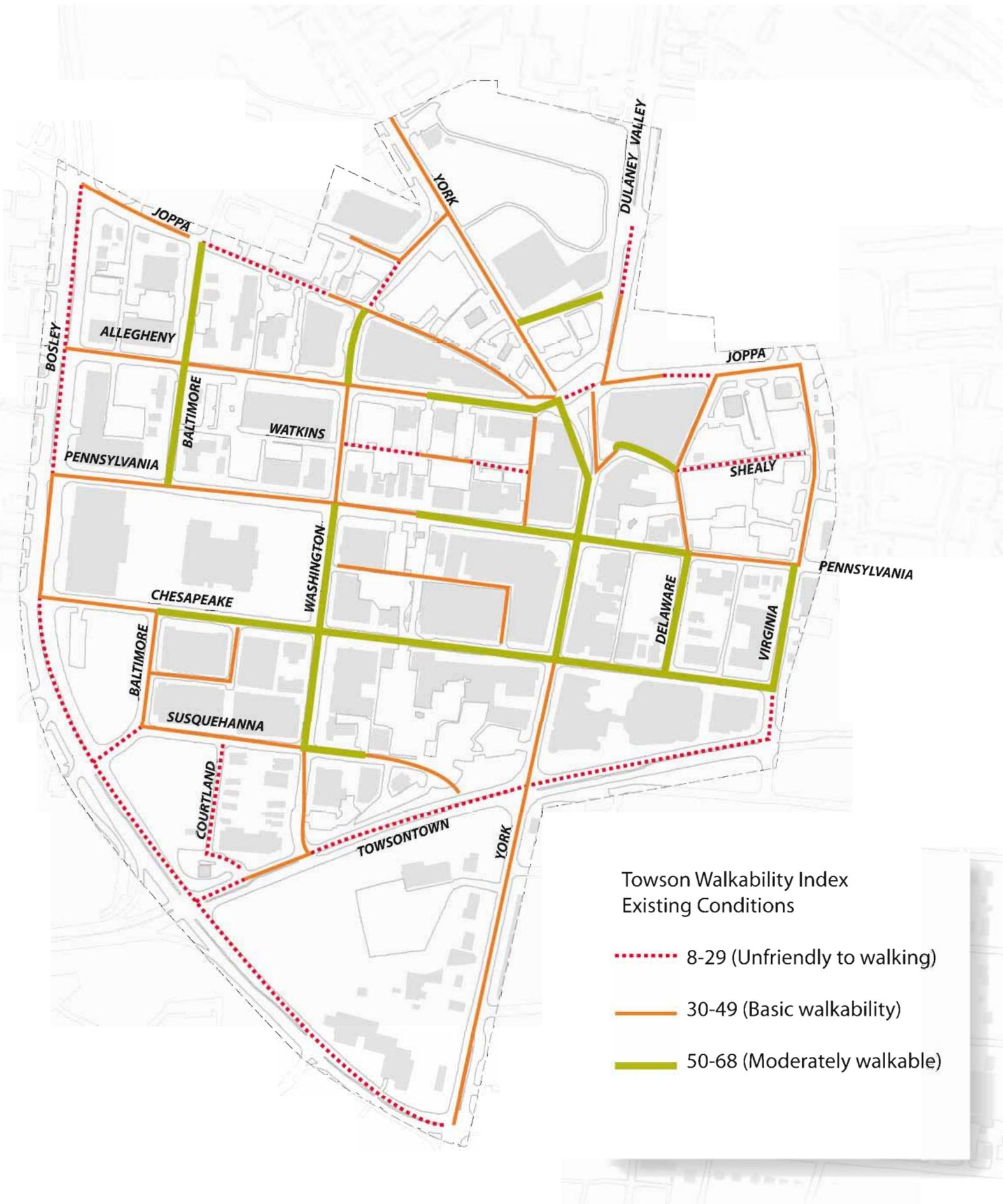


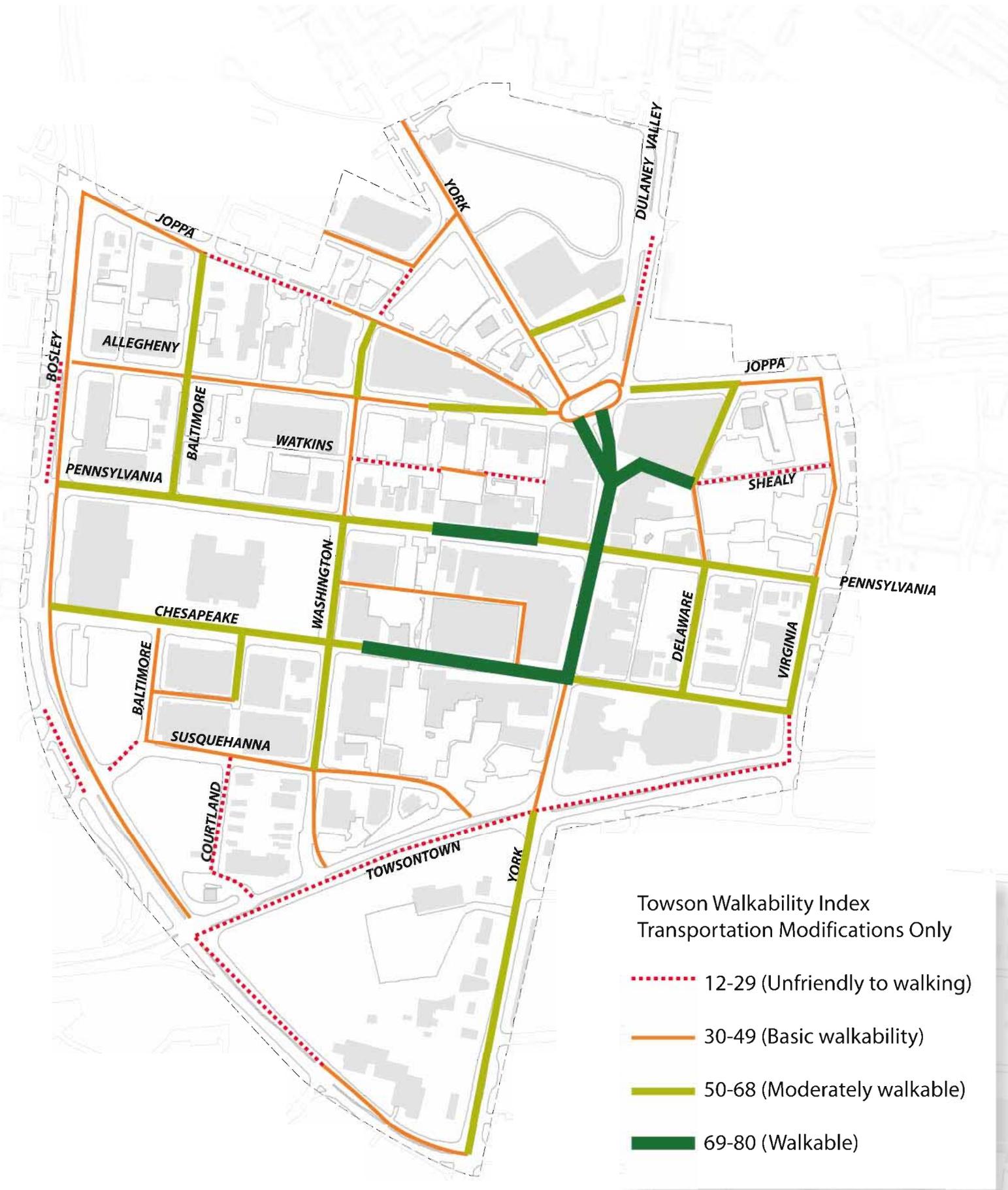
**T6** THE URBAN CORE ZONE consists of the highest density, with the greatest variety of uses, and civic buildings of regional importance. It may have larger blocks; streets have steady street tree planting and buildings set close to the frontages.



## **ATTACHMENT A3**

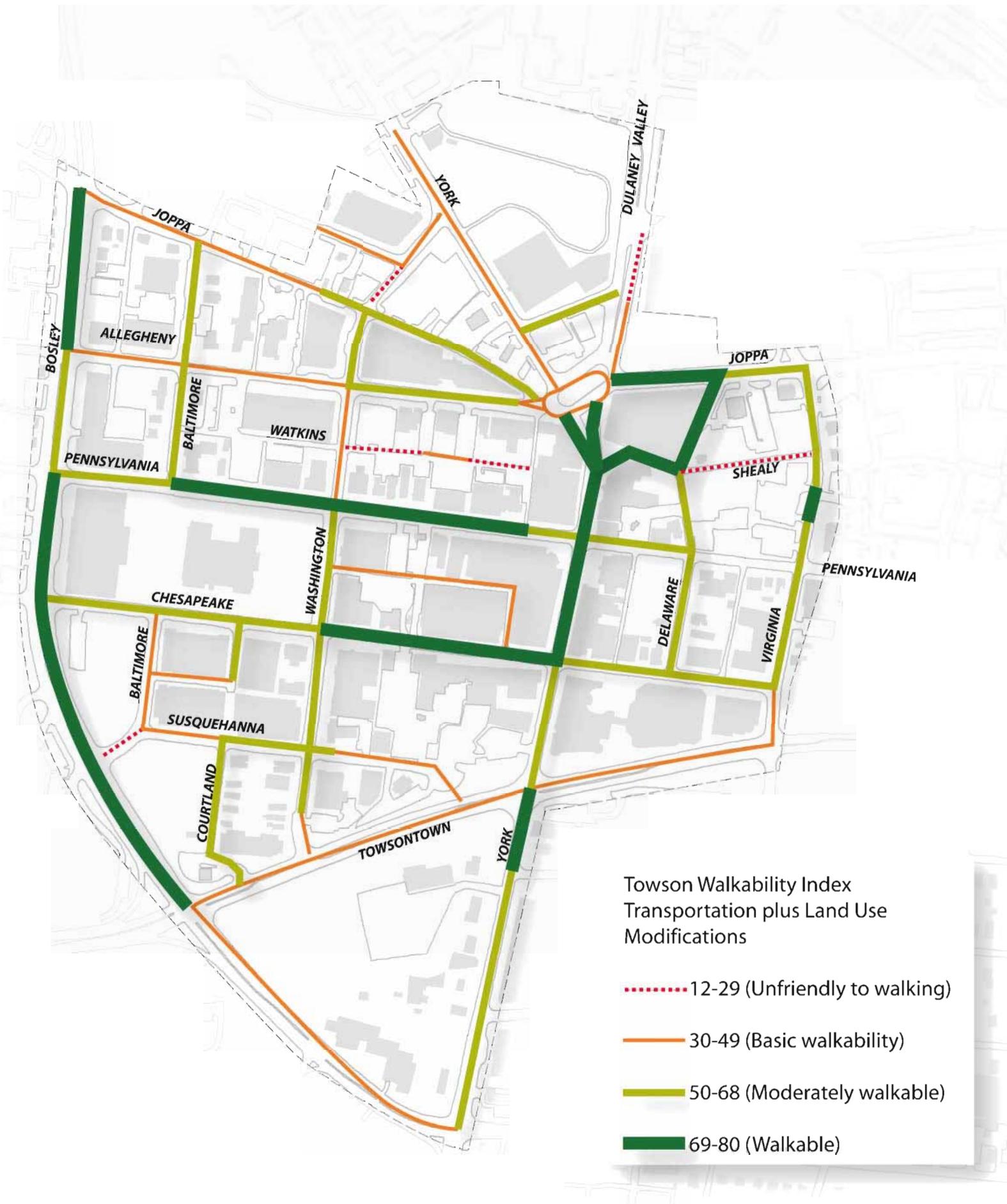
### **Walkability Mapping Example**





Towson Walkability Index  
 Transportation Modifications Only

- ⋯ 12-29 (Unfriendly to walking)
- 30-49 (Basic walkability)
- 50-68 (Moderately walkable)
- 69-80 (Walkable)



## **APPENDIX B**

### **Walkability Index Assessment for High Street**

**WALKABILITY INDEX DATA SHEET:**

Date: 2/17/2009 Street Segment: Crawford

Begin Time: 10:00 AM

Completed by: DeWayne Carver, Tracy Hegler

Representing: City of Portsmouth, VA

Posted Speed of Street/Road: 25 mph Middle

Transect Zone (Circle One): T3 T4 **T5** T6

**WALKABILITY MEASURE**

Criterion	Value	Score Side A	Score Side B	Total Score
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**STREET DESIGN (MAXIMUM SCORE 30 POINTS)**

**1 Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**  
 [Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]

Value	Score Side A	Score Side B	Total Score
≤15 mph	10		0
20 mph	8	8	8
25 mph	6		0
30 mph	4		0
Over 30 mph	0		0
<b>Segment Total</b>		<b>8</b>	<b>8</b>

**2 Pavement Width---curb face to curb face---at Pedestrian Crossing**

Value	Score Side A	Score Side B	Total Score
32' or less	10		0
33' - 42'	8		0
43' to 54'	6		0
55' to 66'	4	4	4
Over 66'	0		0
<b>Segment Total</b>		<b>4</b>	<b>4</b>

**3 Presence of On-Street Parking (Parallel or Angle Parking)**

Value	Score Side A	Score Side B	Total Score
76% - 100% of Block Face	5	5	10
51% - 75% of Block Face	4		0
26% - 50% of Block Face	3		0
10% - 25% of Block Face	2		0
No on-street parking	0		0
<b>Segment Total</b>		<b>10</b>	<b>10</b>

**SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)**

**4 Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**

T3	T4	T5	T6	Value	Score Side A	Score Side B	Total Score
>5'	>6'	>12'	>20'	5	5	5	10
>4' to 5'	>5' to 6'	>8' to 12'	>12' to 20'	3			0
>3' to 4'	>4' to 5'	>5' to 8'	>8' to 12'	2			0
≤3'	≤4'	≤5'	≤8'	0			0
				<b>Segment Total</b>			<b>10</b>

**5 Pedestrian Connectivity: Distance between intersections or mid-block crossings**

Value	Score Side A	Score Side B	Total Score
300' or less	5		0
301' to 400'	4	4	8
401' to 500'	3		0
501' to 600'	2		0
Over 600'	0		0
<b>Segment Total</b>		<b>8</b>	<b>8</b>

**6 Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**

Value	Score Side A	Score Side B	Total Score
High quality (4-5)	5		0
Moderate quality (2-3)	3	3	6
Low quality ( 1 )	1		0
Poor quality or no features ( 0 )	0		0
<b>Segment Total</b>		<b>6</b>	<b>6</b>

**URBAN DESIGN (MAXIMUM SCORE 30 POINTS)**

**7 Street Enclosure: Ratio of building height to street width [building face to building face]**

Value	Score Side A	Score Side B	Total Score
<1:1	10		0
1:1 to <1:3	8		0
1:3 to 1:6	6		0
>1:6	0	0	0
<b>Segment Total</b>		<b>0</b>	<b>0</b>

**8 Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**

T4	T5	T6	Value	Score Side A	Score Side B	Total Score
3+	4+	4+	5			0
2	3	3	3	2	3	3
1	2	2	2			0
N/A	1	1	0			0
				<b>Segment Total</b>		<b>5</b>

**9 Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians\***

Value	Score Side A	Score Side B	Total Score
Small units; many doors (15-20 doors/block face); lots of character	5		0
Small units; many doors (10-14 doors/block face); many details	4		0
Mix of large & small units; (6-9 doors/block face); few details	3		0
Large units; little variation (2-5 doors/block face); few or no details	1	1	2
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0
<b>Segment Total</b>		<b>2</b>	<b>2</b>

\*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefler and Solvejg Reigstad

**TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)**

**10 Transit and/or Bicycle Features**

Value	Score Side A	Score Side B	Total Score
Presence of special bus/bicycle features (e.g. bus shelters & bike)	10		0
Presence of bus stops and bicycle racks	8		0
Presence of bus stops or bicycle racks only	6	6	6
No bus stops or bicycle racks	0		0
<b>Segment Total</b>		<b>6</b>	<b>6</b>

Walkability Scoring		<b>TOTAL SCORE, THIS STREET SEGMENT</b>	<b>59</b>
90 - 100 points	High Walkability (A)		
70 - 89 points	Very Walkable (B)		
50 - 69 points	Moderately Walkable (C)		
30 - 49 points	Basic Walkability (D)		
20 - 29 points	Minimal Walkability (E)		
19 points or less	Uncomfortable/hazardous for Walking (F)		





**WALKABILITY INDEX DATA SHEET:**

Date: 2/17/2009 Street Segment: Dinwiddie

Begin Time: 10:00 AM

Completed by: DeWayne Carver, Tracy Hegler

Representing: City of Portsmouth, VA

Posted Speed of Street/Road: 25 mph Washington

Transect Zone (Circle One): T3 T4 **T5** T6

**WALKABILITY MEASURE**

Criterion	Value	Score Side A	Score Side B	Total Score
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**STREET DESIGN (MAXIMUM SCORE 30 POINTS)**

**1 Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**  
 [Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]

Value	Score Side A	Score Side B	Total Score
≤15 mph	10		0
20 mph	8		0
25 mph	6	6	6
30 mph	4		0
Over 30 mph	0		0
Segment Total			6

**2 Pavement Width---curb face to curb face---at Pedestrian Crossing**

Value	Score Side A	Score Side B	Total Score
32' or less	10		0
33' - 42'	8		0
43' to 54'	6		0
55' to 66'	4	4	4
Over 66'	0		0
Segment Total			4

**3 Presence of On-Street Parking (Parallel or Angle Parking)**

Value	Score Side A	Score Side B	Total Score
76% - 100% of Block Face	5	5	10
51% - 75% of Block Face	4		0
26% - 50% of Block Face	3		0
10% - 25% of Block Face	2		0
No on-street parking	0		0
Segment Total			10

**SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)**

**4 Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**

T3	T4	T5	T6	Value	Score Side A	Score Side B	Total Score
>5'	>6'	>12'	>20'	5	5	5	10
>4' to 5'	>5' to 6'	>8' to 12'	>12' to 20'	3			0
>3' to 4'	>4' to 5'	>5' to 8'	>8' to 12'	2			0
≤3'	≤4'	≤5'	≤8'	0			0
Segment Total							10

**5 Pedestrian Connectivity: Distance between intersections or mid-block crossings**

Value	Score Side A	Score Side B	Total Score
300' or less	5		0
301' to 400'	4	4	8
401' to 500'	3		0
501' to 600'	2		0
Over 600'	0		0
Segment Total			8

**6 Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**

Value	Score Side A	Score Side B	Total Score
High quality (4-5)	5		0
Moderate quality (2-3)	3	3	6
Low quality ( 1 )	1		0
Poor quality or no features ( 0 )	0		0
Segment Total			6

**URBAN DESIGN (MAXIMUM SCORE 30 POINTS)**

**7 Street Enclosure: Ratio of building height to street width [building face to building face]**

Value	Score Side A	Score Side B	Total Score
<1:1	10		0
1:1 to <1:3	8		0
1:3 to 1:6	6	6	6
>1:6	0		0
Segment Total			6

**8 Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**

T4	T5	T6	Value	Score Side A	Score Side B	Total Score
3+	4+	4+	5	5	5	5
2	3	3	3			0
1	2	2	2	2		2
N/A	1	1	0			0
Segment Total						7

**9 Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians\***

Value	Score Side A	Score Side B	Total Score
Small units; many doors (15-20 doors/block face); lots of character	5		0
Small units; many doors (10-14 doors/block face); many details	4	4	4
Mix of large & small units; (6-9 doors/block face); few details	3		0
Large units; little variation (2-5 doors/block face); few or no details	1	1	1
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0
Segment Total			5

\*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefler and Solvejg Reigstad

**TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)**

**10 Transit and/or Bicycle Features**

Value	Score Side A	Score Side B	Total Score
Presence of special bus/bicycle features (e.g. bus shelters & bike)	10		0
Presence of bus stops and bicycle racks	8		0
Presence of bus stops or bicycle racks only	6	6	6
No bus stops or bicycle racks	0		0
Segment Total			6

Walkability Scoring		<b>TOTAL SCORE, THIS STREET SEGMENT</b>	<b>68</b>
90 - 100 points	High Walkability (A)		
70 - 89 points	Very Walkable (B)		
50 - 69 points	Moderately Walkable (C)		
30 - 49 points	Basic Walkability (D)		
20 - 29 points	Minimal Walkability (E)		
19 points or less	Uncomfortable/hazardous for Walking (F)		

**WALKABILITY INDEX DATA SHEET:**

Date: 2/17/2009 Street Segment: Washington

Begin Time: 10:00 AM

Completed by: DeWayne Carver, Tracy Hegler

Representing: City of Portsmouth, VA

Posted Speed of Street/Road: 25 mph Green

Transect Zone (Circle One): T3 T4 **T5** T6

**WALKABILITY MEASURE**

Criterion	Value	Score Side A	Score Side B	Total Score
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**STREET DESIGN (MAXIMUM SCORE 30 POINTS)**

**1 Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**  
 [Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]

Value	Score	Score Side A	Score Side B	Total Score
≤15 mph	10			0
20 mph	8			0
25 mph	6	6	6	6
30 mph	4			0
Over 30 mph	0			0
Segment Total				6

**2 Pavement Width---curb face to curb face---at Pedestrian Crossing**

Value	Score	Score Side A	Score Side B	Total Score
32' or less	10			0
33' - 42'	8			0
43' to 54'	6			0
55' to 66'	4	4	4	4
Over 66'	0			0
Segment Total				4

**3 Presence of On-Street Parking (Parallel or Angle Parking)**

Value	Score	Score Side A	Score Side B	Total Score
76% - 100% of Block Face	5	5	5	10
51% - 75% of Block Face	4			0
26% - 50% of Block Face	3			0
10% - 25% of Block Face	2			0
No on-street parking	0			0
Segment Total				10

**SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)**

**4 Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**

Transect	Value	Score	Score Side A	Score Side B	Total Score			
T3 >5'	>6'	>12'	>20'	5	5	5	5	10
T4 >4' to 5'	>5' to 6'	>8' to 12'	>12' to 20'	3				0
T5 >3' to 4'	>4' to 5'	>5' to 8'	>8' to 12'	2				0
T6 ≤3'	≤4'	≤5'	≤8'	0				0
Segment Total								10

**5 Pedestrian Connectivity: Distance between intersections or mid-block crossings**

Value	Score	Score Side A	Score Side B	Total Score
300' or less	5			0
301' to 400'	4	4	4	8
401' to 500'	3			0
501' to 600'	2			0
Over 600'	0			0
Segment Total				8

**6 Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**

Value	Score	Score Side A	Score Side B	Total Score
High quality (4-5)	5			0
Moderate quality (2-3)	3	3	3	6
Low quality ( 1 )	1			0
Poor quality or no features ( 0 )	0			0
Segment Total				6

**URBAN DESIGN (MAXIMUM SCORE 30 POINTS)**

**7 Street Enclosure: Ratio of building height to street width [building face to building face]**

Value	Score	Score Side A	Score Side B	Total Score
<1:1	10			0
1:1 to <1:3	8			0
1:3 to 1:6	6	6	6	6
>1:6	0			0
Segment Total				6

**8 Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**

Transect	Value	Score	Score Side A	Score Side B	Total Score
T4 3+	4+	4+	5	5	10
T5 2	3	3			0
T6 1	2	2			0
N/A	1	1			0
Segment Total				10	

**9 Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians\***

Value	Score	Score Side A	Score Side B	Total Score
Small units; many doors (15-20 doors/block face); lots of character	5	5	3	8
Small units; many doors (10-14 doors/block face); many details	4			0
Mix of large & small units; (6-9 doors/block face); few details	3			0
Large units; little variation (2-5 doors/block face); few or no details	1			0
Large units; few or no doors (0-1 doors/block face); uniform façade	0			0
Segment Total				8

\*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefler and Solvejg Reigstad

**TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)**

**10 Transit and/or Bicycle Features**

Value	Score	Score Side A	Score Side B	Total Score
Presence of special bus/bicycle features (e.g. bus shelters & bike)	10			0
Presence of bus stops and bicycle racks	8			0
Presence of bus stops or bicycle racks only	6	6	6	6
No bus stops or bicycle racks	0			0
Segment Total				6

Walkability Scoring		<b>TOTAL SCORE, THIS STREET SEGMENT</b>	<b>74</b>
90 - 100 points	High Walkability (A)		
70 - 89 points	Very Walkable (B)		
50 - 69 points	Moderately Walkable (C)		
30 - 49 points	Basic Walkability (D)		
20 - 29 points	Minimal Walkability (E)		
19 points or less	Uncomfortable/hazardous for Walking (F)		

**WALKABILITY INDEX DATA SHEET:**

Date: 2/17/2009 Street Segment: Green  
 Begin Time: 10:00 AM  
 Completed by: DeWayne Carver, Tracy Hegler  
 Representing: City of Portsmouth, VA  
 Posted Speed of Street/Road: 25 mph Effingham  
 Transect Zone (Circle One): T3 T4 **T5** T6

**WALKABILITY MEASURE**

Criterion	Value	Score Side A	Score Side B	Total Score
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**STREET DESIGN (MAXIMUM SCORE 30 POINTS)**

**1 Non-peak hour Free Flow Speed (Vehicles not hindered by stop signal or other slowing/stopping vehicles)**  
 [Note for this measure: If possible, take a minimum of 10 samples; if not possible, take at least 3 samples in 10 minutes]

Value	Score Side A	Score Side B	Total Score
≤15 mph	10		0
20 mph	8	8	8
25 mph	6		0
30 mph	4		0
Over 30 mph	0		0
Segment Total			8

**2 Pavement Width---curb face to curb face---at Pedestrian Crossing**

Value	Score Side A	Score Side B	Total Score
32' or less	10		0
33' - 42'	8		0
43' to 54'	6		0
55' to 66'	4	4	4
Over 66'	0		0
Segment Total			4

**3 Presence of On-Street Parking (Parallel or Angle Parking)**

Value	Score Side A	Score Side B	Total Score
76% - 100% of Block Face	5		5
51% - 75% of Block Face	4		0
26% - 50% of Block Face	3	3	3
10% - 25% of Block Face	2		0
No on-street parking	0		0
Segment Total			8

**SIDEWALK DESIGN (MAXIMUM SCORE 30 POINTS)**

**4 Sidewalk Width: Sidewalk width should be appropriate to the built environment (Score for appropriate transect)**

T3	T4	T5	T6	Value	Score Side A	Score Side B	Total Score
>5'	>6'	>12'	>20'	5	5	5	10
>4' to 5'	>5' to 6'	>8' to 12'	>12' to 20'	3			0
>3' to 4'	>4' to 5'	>5' to 8'	>8' to 12'	2			0
≤3'	≤4'	≤5'	≤8'	0			0
				Segment Total			10

**5 Pedestrian Connectivity: Distance between intersections or mid-block crossings**

Value	Score Side A	Score Side B	Total Score
300' or less	5		0
301' to 400'	4	4	8
401' to 500'	3		0
501' to 600'	2		0
Over 600'	0		0
Segment Total			8

**6 Presence and quality of pedestrian features (good sidewalk condition; lack of obstacles; ADA compliance; shade trees; street furniture)**

Value	Score Side A	Score Side B	Total Score
High quality (4-5)	5		0
Moderate quality (2-3)	3	3	6
Low quality ( 1 )	1		0
Poor quality or no features ( 0 )	0		0
Segment Total			6

**URBAN DESIGN (MAXIMUM SCORE 30 POINTS)**

**7 Street Enclosure: Ratio of building height to street width [building face to building face]**

Value	Score Side A	Score Side B	Total Score
<1:1	10		0
1:1 to <1:3	8		0
1:3 to 1:6	6	6	6
>1:6	0		0
Segment Total			6

**8 Land Use Mix: Presence of different land use types, e.g. retail, eating and drinking establishments, hotels and residential units (Score for appropriate transect)**

T4	T5	T6	Value	Score Side A	Score Side B	Total Score
3+	4+	4+	5	5	5	10
2	3	3	3			0
1	2	2	2			0
N/A	1	1	0			0
				Segment Total		10

**9 Façade Design: Presence of façade arrangements and designs that are attractive to pedestrians\***

Value	Score Side A	Score Side B	Total Score
Small units; many doors (15-20 doors/block face); lots of character	5		0
Small units; many doors (10-14 doors/block face); many details	4		4
Mix of large & small units; (6-9 doors/block face); few details	3	3	3
Large units; little variation (2-5 doors/block face); few or no details	1		0
Large units; few or no doors (0-1 doors/block face); uniform façade	0		0
Segment Total			7

\*Drawn from *Close Encounters With Buildings*; Jan Gehl, Lotte Johansen Kaefler and Solvejg Reigstad

**TRANSIT/BICYCLE FEATURES (MAXIMUM SCORE 10 POINTS)**

**10 Transit and/or Bicycle Features**

Value	Score Side A	Score Side B	Total Score
Presence of special bus/bicycle features (e.g. bus shelters & bike)	10		0
Presence of bus stops and bicycle racks	8		0
Presence of bus stops or bicycle racks only	6		0
No bus stops or bicycle racks	0	0	0
Segment Total			0

Walkability Scoring		<b>TOTAL SCORE, THIS STREET SEGMENT</b>	<b>67</b>
90 - 100 points	High Walkability (A)		
70 - 89 points	Very Walkable (B)		
50 - 69 points	Moderately Walkable (C)		
30 - 49 points	Basic Walkability (D)		
20 - 29 points	Minimal Walkability (E)		
19 points or less	Uncomfortable/hazardous for Walking (F)		

### HIGH STREET (PORTSMOUTH) WALKABILITY INDEX RESULTS

Entry #	Street	Segment		Walkability Measures Summary										Total
				1	2	3	4	5	6	7	8	9	10	
		From	To	Speed	Pavement Width	On-Street Parking	Sidewalk Width	Connectivity	Pedestrian Features	Street Enclosure	Land Use Mix	Façade Design	Transit/Bicycle	
1	High Street	Crawford Street	Middle Street	8	4	10	10	8	6	0	5	2	6	59
2	High Street	Middle Street	Court Street	6	4	10	10	8	6	8	10	8	0	70
3	High Street	Court Street	Dinwiddie Street	6	4	9	10	8	6	8	10	7	6	74
4	High Street	Dinwiddie Street	Washington Street	6	4	10	10	8	6	6	7	5	6	68
5	High Street	Washington Street	Green Street	6	4	10	10	8	6	6	10	8	6	74
6	High Street	Green Street	Effingham Street	8	4	8	10	8	6	6	10	7	0	67
<b>9</b>	<b>Total Average</b>	<b>Crawford Street</b>	<b>Effingham Street</b>	<b>6.66666667</b>	<b>4</b>	<b>9.5</b>	<b>10</b>	<b>8</b>	<b>6</b>	<b>5.66666667</b>	<b>8.66666667</b>	<b>6.16666667</b>	<b>4</b>	<b>68.66667</b>
				1	2	3	4	5	6	7	8	9	10	Total
				Speed	Pavement Width	On-Street Parking	Sidewalk Width	Connectivity	Pedestrian Features	Street Enclosure	Land Use Mix	Façade Design	Transit/Bicycle	



**High Street Walkability Index  
Portsmouth, VA  
Existing Conditions**

- 0-29 (Unfriendly to Walking)
- 30-49 (Basic Walkability)
- 50-69 (Moderately Walkable)
- 70-89 (Very Walkable)
- 90-100 (High Walkability)