Richmond Region Complete Streets Implementation Project

Jakob Helmboldt
Michael B. Sawyer, PE
June 25, 2019
City’s Transportation Emphasis

- Vision Zero
- Smart Cities
- Complete Streets
What is Vision Zero?

- How many traffic fatalities occur in the United States each year?
- What is a good goal for the United States?

- What is a good goal for your family?
- Shouldn’t that be the goal for everyone?

- Changing our built environment + shifting our safety culture.
What is Vision Zero?

- The Vision Zero is the Swedish approach to transportation safety thinking.

- It can be summarized in one sentence:

- **No injuries or loss of life is acceptable.**
Towards Zero Deaths – Virginia’s Plan

MOVING VIRGINIA TOWARD ZERO ROADWAY DEATHS

Arrive Alive Virginia
Virginia Strategic Highway Safety Plan
Why is Vision Zero important?
Since 2013…

- 5,010 Severe Crashes in the Region (112,499 total)
  - 533 people killed in traffic related deaths
    - 97 people were walking
  - 5,534 people suffer incapacitating injuries
    - 412 people were walking

Three Recommendations for RRTPO Members:

1. Create a Regional Vision Zero Task Force
2. Lead the shift in our transportation safety culture
3. Fund the changes to our built environment to support the safety of all transportation users
Why is Vision Zero Important?

Death and Serious Injury by System in Richmond Region

- IS Total
- PRI Total
- SEC Total

- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
Why is Vision Zero important?

THREE YEAR ANNUAL AVERAGE DEATH AND SERIOUS INJURY IN RICHMOND REGION

- Protected, 450
- Unbelted, 240
- Senior Belted, 144
- Motorcycle, 83
- Bike, 28
- Walk, 89
12 Steps to Vision Zero

- STEP 1: Establish Safe and Healthy Streets Commission
- STEP 2: Adopt a Vision Zero Resolution
- STEP 3: Sign a Vision Zero Pledge
- STEP 4: Issue a Safe and Healthy Streets Challenge
- STEP 5: Adopt Vision Zero Action Plan
- STEP 6: Establish a Vision Zero Task Force
- STEP 7: Establish Year One Priorities and Metrics
- STEP 8: Engage community leaders
- STEP 9: Shift the safety culture
- STEP 10: Vision Zero as DNA
- STEP 11: Focus on resources
- STEP 12: Keep your head up
STEP 1: Establish a Safety Commission

Next Meeting:
Wednesday July 17, 2019 at 2PM
Main Library
STEP 2: Adopt City Council Resolutions

- City Council adopted Resolution 2014-R172 in October 2014 for Complete Streets

- City Council adopted Resolution 2016-R011 in March 2016 for Vision Zero
  - Goal of reducing traffic fatalities and serious injuries in road traffic to zero by the year 2030
City Council Resolution 2014-R172

“Ensure the design, construction, operation and maintenance of a comprehensive, integrated, connected multimodal transportation network that balances the access, mobility, health, and safety needs of all users, including persons with disabilities, seniors, children, youth, and families”
City Council Resolution 2014-R172

“Enable the City to secure multiple benefits including increasing mobility and accessibility, improving safety, reducing congestion and transportation costs, offer more transportation choices, enhancing tourism and economic growth, reducing fuel consumption and pollution, improving health, creating stronger communities, and improving the quality of life”
STEP 3: Our Vision Zero Pledge

Source: RTD
Vision Zero Pledge includes Complete Streets

- “We recognize changes to land use patterns and street designs will take time and resources, but will continue this pursuit as opportunities and resources allow.”
A Vision Zero Pledge affects Workplace Culture

- Traditional
- (Hot Spot)
- Systemic
- Comprehensive
- Policy
- Culture
STEP 4: Safe & Healthy Streets Challenge

- Mayor Levar M. Stoney issued The Challenge (2017)

- Five things one can do…
  - Share the road
  - Obey speed limits
  - Buckle in
  - Avoid distractions
  - Drive sober

- If we did, it would not be SO BAD…
STEP 5: Our Vision Zero Action Plan
Vision Zero Action Plan

- Richmond’s vision – support mobility and safety
  - Traffic deaths and severe injuries are acknowledged to be preventable.
  - Human life and health are prioritized within all aspects of transportation systems.
  - Human error is inevitable and transportation systems should account for this.
  - Safety work should begin with systems-level changes and follow with influencing individual behavior.
  - Speed is recognized and prioritized as the fundamental factor in crash severity.
High Injury Street Network

58% of death and serious injuries on 16% of city streets
Pedestrian Crashes 2011 to 2016

Fatalities by Type of Road User

- Pedestrian: 28%
- Older Driver: 18%
- Motorcyclist: 15%

Pedestrian Crashes 2011 to 2016
STEP 6: Vision Zero Task Force & Coordinator

- Strong Mayor / CAO vs. City Manager
- Implementation takes place in the executive branch
- Creates a multi-disciplinary team of involved departments, offices, and authorities led by a Vision Zero Coordinator
- Responsible for reporting progress and metrics to Safe and Healthy Streets Commission, City Council, and the Mayor’s Office
- VZ Coordinator engages community, non-profit, institutional, private sector, regional, state and federal level resources
## STEP 6: Vision Zero Task Force

### Department Leaders

<table>
<thead>
<tr>
<th>Name</th>
<th>Department/Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avula, Danny</td>
<td>Richmond Community Health Department</td>
</tr>
<tr>
<td>Baskerville, Robert G.</td>
<td>Department of Social Services</td>
</tr>
<tr>
<td>Brown, Jay A.</td>
<td>Budget</td>
</tr>
<tr>
<td>Burrell, Betty J.</td>
<td>Procurement Services</td>
</tr>
<tr>
<td>Bustamante, Daniel</td>
<td>Office of Multicultural Affairs</td>
</tr>
<tr>
<td>Carter, Melvin D.</td>
<td>Fire</td>
</tr>
<tr>
<td>Dunlap, Douglas C.</td>
<td>DCAO of Community Development</td>
</tr>
<tr>
<td>Durham, Alfred</td>
<td>Police</td>
</tr>
<tr>
<td>Farr, Calvin D.</td>
<td>Department of Public Utilities</td>
</tr>
<tr>
<td>Ferrara, Jane C.</td>
<td>Department of Economic Development</td>
</tr>
<tr>
<td>Firestine, Scott R.</td>
<td>Richmond Public Library</td>
</tr>
<tr>
<td>Foster, Patricia R.</td>
<td>Minority Business Development</td>
</tr>
<tr>
<td>Frelke, Christopher E.</td>
<td>Department of Parks and Recreation</td>
</tr>
<tr>
<td>Giles, Shunda T.</td>
<td>Department of Social Services</td>
</tr>
<tr>
<td>Gordon, Reginald E.</td>
<td>Office of Community Wealth Building</td>
</tr>
<tr>
<td>Jones, Korita B.</td>
<td>Human Resources</td>
</tr>
<tr>
<td>Lawus, Denise</td>
<td>Housing and Community Development</td>
</tr>
<tr>
<td>Nolan, James S.</td>
<td>Office of Press Secretary</td>
</tr>
<tr>
<td>Olinger, Mark A.</td>
<td>Planning and Development Review</td>
</tr>
<tr>
<td>Peters, Christie C.</td>
<td>Animal Care and Control</td>
</tr>
<tr>
<td>Reid, Lenora G.</td>
<td>DCAO of Finance and Administration</td>
</tr>
<tr>
<td>Steidel, Robert C.</td>
<td>DCAO of Operations</td>
</tr>
<tr>
<td>Summers, Donald R.</td>
<td>Department of Public Works – Capital Projects</td>
</tr>
<tr>
<td>Todd, Charles G.</td>
<td>Department of Information Technology</td>
</tr>
<tr>
<td>Vincent, Bobby</td>
<td>Department of Public Works</td>
</tr>
<tr>
<td>Wack, John B.</td>
<td>Finance</td>
</tr>
<tr>
<td>Willoughby, Stephen M.</td>
<td>Department of Emergency Communications</td>
</tr>
<tr>
<td>Mitchell, Charles</td>
<td>Greater Richmond Transit Company</td>
</tr>
<tr>
<td>Simmons, Theresa</td>
<td>Richmond Metropolitan Transportation Authority</td>
</tr>
<tr>
<td>Decker, Chip</td>
<td>Richmond Ambulance Authority</td>
</tr>
</tbody>
</table>
## STEP 7: Yearly Priorities and Metrics

<table>
<thead>
<tr>
<th>No.</th>
<th>Action</th>
<th>Category</th>
<th>Lead Organization</th>
<th>Metric</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-1</td>
<td>Hire Vision Zero Coordinator to promote continual collaboration and manage implementation and evaluation of the plan across agencies and organizations</td>
<td>Legislative and Budget</td>
<td>CAO</td>
<td>Hire or appoint VZ Coordinator</td>
<td>Complete. Mike Sawyer assigned</td>
</tr>
<tr>
<td>I-2</td>
<td>Establish a multi-department task force to review data and ongoing Vision Zero performance and determine strategies for improvement</td>
<td>Executive</td>
<td>CAO / VZ Coordinator</td>
<td>Meeting Scheduled Quarterly.</td>
<td>Complete.</td>
</tr>
<tr>
<td>I-3</td>
<td>Assign a representative to participate in the Richmond Regional TPO and COV transportation safety meetings</td>
<td>Executive</td>
<td>CAO / VZ Coordinator</td>
<td>representative designated and active</td>
<td>Complete. Mike Sawyer assigned</td>
</tr>
<tr>
<td>I-4</td>
<td>Perform an evaluation of current design speeds on the high injury street network, considering context, and explore ways to make physical engineering changes.</td>
<td>Executive</td>
<td>DPW</td>
<td>Evaluate 135 centerline miles. 93% locations received.</td>
<td>In progress. VDOT partnership.</td>
</tr>
<tr>
<td>I-5</td>
<td>Implement safety treatments on the high injury network</td>
<td>Executive</td>
<td>DPW</td>
<td># safety treatments on HISN</td>
<td>In progress.</td>
</tr>
<tr>
<td>I-6</td>
<td>Conduct strategic, multi-modal high visibility enforcement campaigns with educational components that are designed to reach all users of the transportation system.</td>
<td>Cultural</td>
<td>RPD, NPO, SHSC, VZC</td>
<td># of campaigns by dangerous behavior (OP, DUI, Ped, and Speed)</td>
<td>In progress.</td>
</tr>
<tr>
<td>I-7</td>
<td>Provide a parity of transportation choices for all users through a complete streets approach which allows for multiple modes to make the same trip safely.</td>
<td>Executive</td>
<td>DPW</td>
<td># lane miles of bike infrastructure</td>
<td>In progress. 8.5 miles implemented with 18 miles designed.</td>
</tr>
<tr>
<td>I-8</td>
<td>Provide safe access to transit stops on HISN partnering with GRTC.</td>
<td>GRTC / DPW</td>
<td></td>
<td># accessibility treatments on HISN</td>
<td>In progress.</td>
</tr>
<tr>
<td>I-9</td>
<td>Provide up-to-date and accessible data about traffic safety on the City website</td>
<td>Cultural</td>
<td>RPD OPS DIT</td>
<td>safety dashboard operational</td>
<td>In progress. DPW prototypes.</td>
</tr>
<tr>
<td>I-10</td>
<td>Establish a permanent, dedicated funding source for Vision Zero implementation and coordination.</td>
<td>Legislative and Budget</td>
<td>City Council</td>
<td>$</td>
<td>FY20 Budget Process</td>
</tr>
<tr>
<td>I-11</td>
<td>Identify and evaluate advanced tools and techniques to reduce speeding, such as automated enforcement, and where necessary, work with the General Assembly to expand local authority on the ability to use these tools.</td>
<td>Legislative and Budget</td>
<td>RPD</td>
<td># of Enforcement Tools Deployed; Automated Enforcement Bill</td>
<td>FY20 Budget Process FY19 General Assembly</td>
</tr>
<tr>
<td>I-12</td>
<td>Encourage the passage of a primary seat belt law for all vehicle occupants</td>
<td>Legislative and Budget</td>
<td>SHSC / VZ Coordinator</td>
<td>Law adopted</td>
<td>FY19 General Assembly</td>
</tr>
</tbody>
</table>

**TASK FORCE ADOPTED 10/4/2018**
STEP 8: Engage Community Leaders

- **Start with WHY**
  - 2,700 injuries and 13 deaths on city streets annually;

- **Provide the WHAT**
  - Worked with Richmond District Health Department on messaging;
  - Leadership Talking Points launched;

- **Suggest HOW**
  - Public engagement speeches
  - Community meetings
  - Neighborhood Newsletters
  - Attend safety calendar press events
Action to Coordinate Outreach

- **II-15 Coordinate a transportation safety calendar** to promote safety messaging and high visibility enforcement.
  - APRIL People who work in our roads
  - MAY People who bike
  - JUNE People who ride motorcycles
  - JULY People who drive impaired
  - AUGUST People who are new drivers
  - SEPTEMBER People who transport children
STEP 9: Shift the Safety Culture

- Focus on culture:
  - Family
  - Neighborhood
  - Community
  - School / Workplace / Places of Worship

- Sustain outreach efforts through elected officials, thought leaders, community leaders

- Elevate the conversation to “people talking to people”

- Ask interesting questions
How do we change our safety culture?

Source: RVA Coffee Stain
Key Legislation – Commonwealth of Virginia

- Primary Seat Belt Law for all occupants
- Photo Speed Enforcement Law for schools, parks, and work zones
- Handheld Ban on all electronic devices
- Contributory versus comparative negligence
- Clarifying the law for people who cross streets
Safety Culture is complex and multi-faceted

- It is the collection the following present in a community:
  - shared values,
  - attitudes,
  - beliefs,
  - behaviors,
  - rules,
  - policies, and
  - laws
Read this book…

Careful!
Steve Casner

The surprising science behind everyday calamities – and how you can avoid them
LATEST EDWIN SIGHTINGS

DAY 1 - CITY CENTER

After a long night in the lab, several of us personally witnessed Edwin after we crossed 8th Street to get to the parking garage. We were in such a hurry we crossed the street in the middle of the block instead of walking to the crosswalk, and BOOM. The executive director claims she heard someone whisper “FRIENDS?” in her ear.

DAY 2 - VCU MONROE PARK

Kelsey, a VCU freshman, sent us this picture of an astounding paranormal entity. We believe it to be Edwin because it seems to follow someone who is walking in the crosswalk when it is not safe to walk. She snapped it at Belvidere and Broad in between classes.
Edwin’s Story

EDWIN’S STORY

Edwin Thomas was born on August 21, 1997. He’s the loneliest ghost in Richmond and has been dead for a few years now. He was killed while crossing the street in the downtown Richmond area. Nobody knows for sure what he was doing in his final moments, but legend has it that he was looking at his phone (and not at his surroundings) when a car hit him.

Edwin was raised in NOVA, but he decided to move to Richmond because he liked the eeriness of it. One of his favorite pastimes was walking around Hollywood Cemetery. He used to sit by the tombstones and draw for hours. He also wrote poetry. He was huge fan of Edgar Allan Poe. Some say he wanted to be an artist, but was too shy to show any of his artistry with anyone.

Without his family, friends, or his phone, he’s forced to find new friends who can join him in the afterlife. He now spends his time trying to get people to jaywalk, stare at their phones as they cross the street, and will do anything he can to ensure people don’t take ownership of their own safety.

People say that Death told him he could pick anywhere he wanted to haunt. He chose a few specific spots around Richmond because he knows these parts lack certain infrastructure or they’re densely populated:

- VCU area
- Downtown
- Church Hill
- Manchester
- Chamberlayne

While the mystery remains as to when Edwin will completely cross over and leave Richmond for good, one thing is for sure—his presence has taken a toll on pedestrian deaths and injuries. In 2017 there were over 150 traffic-related deaths or serious injuries in the city streets of Richmond.

To help ward off Edwin, you could follow some superstitions and get a cold iron or hang a horseshoe. But we want the community to get involved, so we’re asking for the community’s help. So here are some links with information on what you can do to help:

Vision Zero
Top Ways to Avoid Edwin

**TOP WAYS TO AVOID EDWIN**

1. Don’t cross the street at any other place besides the crosswalk.
2. Don’t cross the street while the hand is red.
3. Look both ways before you cross the street.
4. Don’t cross the street while looking at your phone.
5. Don’t assume cars will stop for you because you think you have the right of way, regardless if you do or don’t.
6. Don’t assume you have the right of way just because you’re a pedestrian.
7. Don’t walk into oncoming traffic.
8. Don’t walk across the interstate.
9. Don’t jam on some headphones while crossing the street.
10. Don’t cross in an area that is not well-lit.
11. Look both ways.
12. Don’t cross diagonally.
13. Don’t cross the bike lane without looking.

**BONUS:** Don’t cross the street while super drunk!
Edwin isn’t real. BUT This is real...

10 people died while jaywalking in Richmond last year.

THAT’S A HIGHER RATE THAN:

- Richmond: 4.9
- VA Beach: 3
- New York City: 1.2
- Chesterfield: 1.8
- Alexandria: 1.9

Pedestrian deaths per 100,000 people - Source

Read what RVA is doing about it

Keep reading about Edwin (Close)
Speed versus Height
Falls versus Motor Vehicle Crashes

- Average Annual Deaths and Serious Injuries in City of Richmond:
  - 423 from unintentional falls
    - 199 Slipping, Tripping, and Stumbling
    - 41 Stairs or Steps
    - 12 From Ladder
  - 241 from motor vehicle crashes
# 10 Leading Causes of Non-Fatal Injuries

### National Estimates of the 10 Leading Causes of Nonfatal Injuries Treated in Hospital Emergency Departments, United States - 2017

<table>
<thead>
<tr>
<th>Rank</th>
<th>1</th>
<th>1-4</th>
<th>5-9</th>
<th>10-14</th>
<th>15-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>65+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unintentional Fall</td>
<td>120,007</td>
<td>Unintentional Fall</td>
<td>659,107</td>
<td>Unintentional Fall</td>
<td>530,390</td>
<td>Unintentional Fall</td>
<td>451,269</td>
<td>Unintentional Fall</td>
<td>647,408</td>
<td>Unintentional Fall</td>
</tr>
<tr>
<td>2</td>
<td>Unintentional Struck By/Against</td>
<td>23,358</td>
<td>Unintentional Struck By/Against</td>
<td>254,783</td>
<td>Unintentional Struck By/Against</td>
<td>323,525</td>
<td>Unintentional Fall</td>
<td>671,468</td>
<td>Unintentional LV-Occupant</td>
<td>570,448</td>
<td>Unintentional Other Specified</td>
</tr>
<tr>
<td>3</td>
<td>Unintentional Other Bite/Sling</td>
<td>13,505</td>
<td>Unintentional Other Bite/Sling</td>
<td>120,941</td>
<td>Unintentional Other Bite/Sling</td>
<td>107,577</td>
<td>Unintentional Overexertion</td>
<td>222,433</td>
<td>Unintentional LV-Occupant</td>
<td>605,092</td>
<td>Unintentional Struck By/Against</td>
</tr>
<tr>
<td>4</td>
<td>Unintentional Other Specified</td>
<td>9,737</td>
<td>Unintentional Foreign Body</td>
<td>121,422</td>
<td>Unintentional Cut/ Pierce</td>
<td>88,468</td>
<td>Unintentional Overexertion</td>
<td>493,072</td>
<td>Unintentional Other Specified</td>
<td>517,028</td>
<td>Unintentional Overexertion</td>
</tr>
<tr>
<td>5</td>
<td>Unintentional Foreign Body</td>
<td>8,618</td>
<td>Unintentional Overexertion</td>
<td>65,413</td>
<td>Unintentional Overexertion</td>
<td>67,107</td>
<td>Unintentional Cut/Pierce</td>
<td>345,524</td>
<td>Unintentional Overexertion</td>
<td>482,430</td>
<td>Unintentional LV-Occupant</td>
</tr>
<tr>
<td>6</td>
<td>Unintentional Inhalation/Suffocation</td>
<td>8,518</td>
<td>Unintentional Overexertion</td>
<td>58,727</td>
<td>Unintentional LV-Occupant</td>
<td>53,761</td>
<td>Unintentional LV-Occupant</td>
<td>64,349</td>
<td>Unintentional Other Specified</td>
<td>331,389</td>
<td>Unintentional Poisoning</td>
</tr>
<tr>
<td>7</td>
<td>Unintentional Fire/Burn</td>
<td>7,567</td>
<td>Unintentional Other Specified</td>
<td>47,348</td>
<td>Unintentional Foreign Body</td>
<td>52,756</td>
<td>Unintentional Other Bite/ Sting</td>
<td>57,014</td>
<td>Other Assault* Struck By/Against</td>
<td>312,205</td>
<td>Unintentional Cut/Pierce</td>
</tr>
<tr>
<td>8</td>
<td>Unintentional Unknown/Unspecified</td>
<td>4,118</td>
<td>Unintentional Fall</td>
<td>40,166</td>
<td>Unintentional Pedal Cyclist</td>
<td>39,388</td>
<td>Other Assault* Struck By/Against</td>
<td>54,866</td>
<td>Other Assault* Struck By/Against</td>
<td>246,611</td>
<td>Other Assault* Struck By/Against</td>
</tr>
<tr>
<td>9</td>
<td>Unintentional Cut/Pierce</td>
<td>3,844</td>
<td>Unintentional Fall</td>
<td>38,207</td>
<td>Unintentional Cut/Pierce</td>
<td>38,323</td>
<td>Unintentional Cut/Pierce</td>
<td>40,876</td>
<td>Unintentional Other Transport</td>
<td>122,980</td>
<td>Unintentional Unknown/Unspecified</td>
</tr>
</tbody>
</table>
But my vehicle has FIVE Stars
Speed and Severity

![Graph showing the relationship between Delta-V (mph) and Probability of Death (percent). The probability of death increases dramatically with an increase in Delta-V.]
Death + Serious Injuries for belted at 40MPH
Same impact – Different Age

![Graph showing the relationship between age and fatality risk.](image)
What do these have in common?

- Unbelted daughter in a motor vehicle
- Son crossing street to go to school
- Mother riding motorcycle
- Dad riding bicycle
- Grandmother jogging
- Grandfather buckled in back seat at 40MPH
- Dog running out front door
- Deer crossing to the park
Who is vulnerable on city streets?

- Protected: 76
- No Belt: 44
- Walking: 36
- Senior wearing seatbelt: 34
- Riding Bike: 8
- Riding Motorcycle: 23
Who is vulnerable on Virginia’s roads?

- Protected: 3230
- Riding Motorcycle: 713
- Senior wearing seatbelt: 1163
- Riding Bike: 130
- Walking: 493
- No Belt: 1814
Vision Zero Language is important...

- **II-19** Develop standard language regarding VZ for use by all partners when interacting with the media and the public.

  - *AP Stylebook* @APStylebook
    - Instead, use crash, collision or other terms. #ACES2016
    - When negligence is claimed or proven, avoid accident, which can be read as exonerating the person responsible. #ACES2016
#Crashnotaccident

CRASHES:

- Drunk
- Drugged
- Distracted
- High Speed
- Aggressive
- Drowsy
- Road Rage
- Vehicular Suicide

Accidents:
- Acts of God
Established September 1st, 2017

Retweet existing safety messages

Goals
- See how many messages are out there related to shifting our safety culture
- Describe what Vision Zero is about and what normal people can do to improve
- Encourage peer groups to challenge each other

Approximately 7,000+ messages from experts
Over 400,000+ impressions
STEP 10: Vision Zero as DNA

- Partnerships
- Health in all Policies
  - City Master Plan
  - Better Streets Manual
    - Traffic Signal Operations
    - Bike Infrastructure
    - Pedestrian Infrastructure
    - Intersection Design
    - Typical Sections
  - New Development
    - Private Sector
    - Universities / City Owned
Better Streets Overview

- Creating complete streets is a process …….. not a guide
- Streets are for all users - young and old, mobility impaired, drivers, riders, walkers, bikers, utilities, business owners
Better Streets Overview

- Integrating complete streets policy with City design standards and construction specifications.
  - Part 1 – Policy
  - Part 2 – Standards
  - Part 3 - Construction
- It’s like a trip; plan it, map your route, travel and refer to your map when you need to.
1. Create a Vision
2. Create Typologies & Overlays
3. Define the Pedestrian Space
4. Define the Street Space
5. Intersections Principles
6. Integration of Elements
Complete Streets Implementation in RVA

Richmond’s Guiding Principles

SAFE  GREEN  ACTIVE  HEALTHY  MULTIMODAL  SMART
Complete Streets Implementation in RVA

**Policy Approach**

- Establish Street Typologies
- Establish Overlays
- Create guidelines
- Combine policy with geometric and construction standards
- Design for multiple users

![Image showing a road with different types of vehicles: Pedestrians, Bicycles, Transit, Motor Vehicles]
It’s a Process
Multiple Users

- Pedestrians are the most vulnerable
- Balance the need for accommodations
- Consider the adjacent land uses
- Respect systems and connectivity
  - Richmond Bicycle Master Plan
  - GRTC Transit Routes
  - Richmond 300 (in progress)
Defining Streets – Contextual Typologies

Downtown
Commercial Connector
Neighborhood Connector
Neighborhood Residential
Mixed-Use
Industrial
Parkways
Downtown

Commercial Connector

Midlothian Turnpike

Neighborhood Connector

Street Typologies

E. Main Street

Brook Road
Street Elements

- Presents design guidelines for street elements
  - Sidewalk Zone
  - Street Zone
  - Intersections
- Prioritizes elements based on typology
- Presents preferred and minimum criteria
  - Curb radii
  - Crosswalk width
  - Lane width

<table>
<thead>
<tr>
<th></th>
<th>Frontage Zone (feet)</th>
<th>Pedestrian Zone (feet)</th>
<th>Buffer Zone (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downtown Streets</td>
<td>1</td>
<td>&gt;8</td>
<td>5</td>
</tr>
<tr>
<td>Commercial Connector Streets</td>
<td>0.5</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Neighborhood Connector Streets</td>
<td>0.5</td>
<td>&gt;6</td>
<td>5</td>
</tr>
<tr>
<td>Neighborhood Residential Streets</td>
<td>0.5</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Mixed Use Streets</td>
<td>1</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Industrial Streets</td>
<td>0.5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Parkways</td>
<td>0.5</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>
Balance the needs of the users within a constrained right-of-way
Understand Context

- Land Use
- Activity
- Overlays
  - Land Use Areas (i.e. Historic Districts)
  - Vision Zero Priorities
  - School Zones
  - Transit Streets
  - Bicycle Network Streets
  - Freight Routes
Questions?

Case Studies
Case Studies

Franklin Street Separated Bike Lanes

Shockoe Valley Streets Improvements
Shockoe Valley Streets Improvements

- Smart Scale Funding
- Identified I-95/I-64 Overlap Study
- Improve traffic operations on adjacent surface streets
  - Five roundabouts
  - Complete streets
Shockoe Valley Streets Improvements

**Access** – Improve Access into the neighborhood

**Speed** – Promote Lower Vehicle Speeds

**Bicyclists** – Connect Bike Trails

**Transit** – Accommodate New Transit System

**Connectivity**
Oliver Hill Way – Venable Street to Broad Street

Existing Conditions

Proposed Conditions – Option 1
- Widen cross-section from 65’ to 78’
- Narrow travel lanes to 11’
- Buffered bike lane and green space

Proposed Conditions – Option 2
- Widen cross-section from 65’ to 74’
- Conversion to two-way travel and narrow travel lanes to 11’
- Wide shared use path and green space
Venable Street – Oliver Hill Way to Mosby Street

Existing Conditions
- Curbside parking
- No bicycle facilities
- Wide travel lanes

Proposed Conditions
- Maintains existing 68’ cross-section
- Narrow travel lanes to 11’
- Buffered bike lane on uphill side of street
- Floating parking lane on residential side of street
- Downhill side of street - option for either...
  - Buffered bike lane
  - Parking lane plus sharrow in travel lane
Franklin Street Separated Bike Lanes

- Original concept: one-way bike lanes on E. Main Street & E. Franklin Street
- Multiple options considered including two-way bike lanes on E. Franklin Street
- Public input process
- Multimodal considerations
  - Bicycle
  - Transit
  - On-street parking
  - Peak hour traffic
Franklin Street Separated Bike Lanes

**Buffered Bike Lane Next to Travel Lane**
- Two peak-hour travel lanes
- One non-peak hour travel lane
- Permanent parking lane
- Parking on both sides
- Bicyclists adjacent to moving vehicles

**Buffered Bike Lane Next to Sidewalk**
- Three peak-hour travel lanes
- Two non-peak hour travel lanes
- Loss of one parking lane
- Bicyclists buffered from moving vehicles

**Parking Separated Bike Lane**
- Three peak-hour travel lanes
- One non-peak hour travel lane
- Parking on both sides
- Bicyclists buffered from parking and moving vehicles

**Two-Way Separated Bike Lane**
- Two peak-hour travel lanes
- One non-peak hour travel lane
- Permanent parking lane
- No impacts to Main Street
- No interaction of bicycles & buses
- Floating parking separating the bike lane
Franklin Street Separated Bike Lanes

- Selected option of two-way separated on Franklin Street
  - Comfortable bike facilities
  - Better connectivity with City bicycle system
  - Parking prohibition during peak reduced to one side
  - No transit/bike conflicts
- Change is always challenging
- Continuing education
STEP 11: Focus on Resources

- Grant writing

- Local budget process
  - Transportation Operations and Enforcement
  - Traffic Safety Assets
    - Regulatory and Warning Signs
    - Crosswalks and School Markings
    - Traffic Signal Maintenance Replacement

- Training for excellent employees

- Leverage partnerships and technology
STEP 12: Keep your head up…