Great streets (as public places) bring people into the restaurants, shops, offices, and housing along them. A great street is a place where people want to be— to live, to work, to visit with friends, to shop, and to spend time. Throughout the world, walkable and bikeable streets provide the economic engines for successful communities.
WHAT MAKES A STREET GREAT?

- Memorable character
- Balanced competing needs
- Safety
- Variety of activities
- Thriving businesses
- Community spaces
- Sustainability
- Context sensitivity
GREAT CITIES - GREAT STREETS

Congress Street
Portland, ME

King Street
Charleston, SC

State Street
Santa Barbara, CA

Washington Street
Indianapolis, IN
GREAT CITIES - GREAT STREETS

• Charlottesville is a Great City
• West Main Street has potential to be a Great Street
  » Connection between two nationally celebrated destinations
  » Proximity to thriving neighborhoods
  » Emerging hub of local businesses
CHARACTER OF THE STREET TODAY

“Small town feeling”

Variety of building types and uses

Historic
WEST MAIN STREET IS CHANGING...

New businesses

New housing

Growing institutions
The growth of businesses and residents along the corridor has increased the demand for wider sidewalks for pedestrians; facilities to support alternative transportation options; and efficient parking resources to ensure patronage of businesses.
THE STREETSCAPE HAS NOT KEPT PACE WITH CHANGE...

Narrow Sidewalks

Narrow Bike Lanes and Potential for “Dooring”

Uplifted Pavement Due to Constrained Tree Box

Monoculture of Trees Vulnerable to Disease

Unsightly Overhead Utilities

Outdated and Deteriorated Street Furnishings
Although West Main Street has facilities to accommodate bicyclists, pedestrians, vehicles and transit, they are inadequate and no longer meet the needs of the growing district and City.
On West Main Street, however, the constrained configuration of the pedestrian right-of-way, the dominance of fast-moving vehicular traffic over other modal accommodations and the lack of public realm amenities provide few incentives for people to come to the street...

WHAT’S NEEDED IS A TRANSFORMATION...
RIDGE MCINTIRE ROAD GATEWAY BEFORE...
WEST OF THE BRIDGE BEFORE...
WEST OF THE BRIDGE AFTER...
A COMMUNITY PROCESS
STEERING COMMITTEE MEETINGS

- Representatives from local business owners, residents, and organizations
- Guided the development of the Master Plan
  » Evaluated design ideas and made sure the needs of the community were being met
- 6 Meetings with the Steering Committee
- Unanimous approval of preferred street configuration
What We Heard

» Celebrate history
» Accommodate people who bike, walk, drive, and ride transit
» Increase the public green space and tree canopy along the street
» Support a mix of land uses that support local residents and students
» Encourage compatible development that is in-keeping with the historic character of West Main Street

• Meeting #1 - 98 Participants
• Meeting #2 - 165 Participants
• Meeting #3 - 125 Participants
WHAT CHANGES DID PEOPLE WANT TO SEE?

- Eliminate On-Street Parking
- Place Utilities Underground
- Protect Sight Lines to Mountains
- More Trees
- Preserve and Plant Trees
- Improve Bus Stops
- More Bicycles
- Bike Boxes
- More Affordable Housing
- Add Seating
- More Wide Sidewalks
- Bike Lanes
- More Murals & Art
- Colored Bike Lanes
- More Parks
- Build Neighborhood Connections
- Minimize Pedestrian and Bicycle Access
- Maximize Pedestrian and Bicycle Access
- Cycle Tracks
- Minimize Large Buildings
- Stormwater Management
- Improve Safety of Bicyclists
- Minimize Flooding
- Unobstructed Sidewalks
- Views
- “Funky Mix” of Buildings
- Bike Boxes
- Keep Small Scale Character
- Keep Art / Murals
- Repurpose Alleyways
- Historic / Modern Mix
- One Street with One Consistent Character
- Protect Adjacent Neighborhoods From Increased Traffic
- Neighborhood Oriented Businesses
- Stormwater Management
- Permeable Paving
- Outdoor Social Spaces
- Woonerf
- Arts & Culture District
- Improve Lighting
- Bus “pull-off” Areas
- Increase High Visibility Crosswalks
- Improve Safety of Bicyclists
- Improve Lighting
FOUNDATION OF A GREAT WEST MAIN STREET

1. A Multimodal Street
2. A Mix of Land Uses
3. Established Neighborhood Connections
4. Cultural Landscapes/Historic Preservation
5. Accommodated Parking
6. An Activated Street
7. Environmental Stewardship
8. Views of Surroundings
9. A Celebrated History
10. An Eclectic Streetscape
MANY ALTERNATIVES WERE CONSIDERED...
THE APPROVED ALTERNATIVE
APPROVED BY STEERING COMMITTEE - JUNE 10TH

Proposed

59.5' Right-of-Way

Proposed

60' Right-of-Way & 15' Easement

West of Bridge

East of Bridge
THE STREETSCAPE MASTER PLAN
<table>
<thead>
<tr>
<th>HIGHLIGHTS OF THE PLAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Wider Sidewalks</td>
</tr>
<tr>
<td>• Protected Bike Lanes</td>
</tr>
<tr>
<td>• On-Street and Managed Parking</td>
</tr>
<tr>
<td>• Gateways and Gathering Places</td>
</tr>
<tr>
<td>• Accommodation of First Responders</td>
</tr>
<tr>
<td>• Hundreds of Trees</td>
</tr>
<tr>
<td>• Low Impact Development (LID)/Green Design</td>
</tr>
<tr>
<td>• New Lighting and Furnishings</td>
</tr>
<tr>
<td>• Interpretation Signage</td>
</tr>
<tr>
<td>• New Utilities/Utilities Relocated Underground</td>
</tr>
<tr>
<td>• Safe, Accessible Bus Stops</td>
</tr>
</tbody>
</table>
THE STREETSCAPE MASTER PLAN
The character of West Main Street is different in its eastern segment from the western portion.

- Context sensitive solutions design streets that respond to adjacent land uses and traveler needs
- The western segment has a higher density of emergency vehicles
- The eastern segment has a higher density of local businesses and sidewalk commercial activity
THE STREETSCAPE MASTER PLAN
EAST OF BRIDGE

9th St.
7th St.
4th St.
Ridge St.

[Diagram showing street layout with sidewalk, protected bike lane, tree zone, parking lane, drive lane, bike lane, and sidewalk.]
THE STREETSCAPE MASTER PLAN
WEST OF BRIDGE
GATEWAYS

Jefferson Park Ave. Intersection

The Bridge

Ridge-McIntire Rd. Intersection
Goal: Create a signature gateway to West Main Street that provides a safer intersection for pedestrians, bicyclists, and drivers.

A. Elimination of “slip-lane” from West Main St. onto Ridge St.

B. Refine intersection geometry to reduce intersection crossing times

C. Reconfigure travel lanes on Ridge, Ridge-McIntire, & Water Streets to accommodate bike lanes
WIDER SIDEWALKS & PROTECTED BIKE LANES
Street-Level Bike Lane

Sidewalk-Level, Protected Bike lane

STREET CONFIGURATION
BICYCLE INFRASTRUCTURE

West Main St.
HOW THIS WORKS...
CAMBRIDGE, MASS.

Bike Lane Transition to Protected Bike Lane

Protected Bike Lane With On Street Parking
RETAINING EXISTING TRAFFIC LIGHTS

- Ridge-McIntire Rd.
- 4th St.
- 7th St.
- 10th St. / Roosevelt Brown Blvd.
- 11th St.
- Jefferson Park Ave.
52 ON-STREET PARKING SPACES

- 85 Existing
- 33 Removed

- Existing spaces are not managed to maximize effectiveness
- Managed spaces are typically 3x more productive
- Loss can be mitigated with enforcement, management, & other incentives
- Need for loading and short-term “transactional” parking.
- Delivery & waste services to be specifically managed (e.g., early morning when demand is lower)
- Plan places parking on blocks that lack off-street loading or customer spaces
TREES

Existing Trees
109 Trees
(along West Main and immediately adjacent to the Right-of-Way)

Trees Removed & Potentially Saved
40 Trees Removed
(Poor condition/ utility conflicts)

New Trees to be Added
321 Trees

Proposed Tree Count on West Main
430 Trees
400% increase

KEY
- Existing Tree
- Potential Tree To Be Removed
VEGETATION

Large Canopy Trees--Street Worthy Oaks & Natives with a Focus on Fall Color

- Shumard Oak
- Northern Red Oak
- Kentucky Coffee Tree
- Autumn Flame Red Maple
- Pin Oak

Medium Canopy Trees:

- Black Gum
- Amur Maple
- Red Horse Chestnut
- 'Hearts of Gold' Redbud

Columnar Trees:

- "Columnar" Maple
- 'Columnar' Sweetgum

Small Trees (Median):

- Fringetree
- 'Lemon Candy' Ninebark

Bioretention Perennials & Grasses--Tough, Ground-Holding Plants

- Aromatic Bluestar
- Palm Reed
- Switchgrass
- Golden Groundsel
- White Mistflower
- Common Rush
- Creeping Red Fescue

* INDICATES SPECIES APPROPRIATE IN BIORETENTION TREE PITS

Nelson Nygaard Consulting Associates
Bushman Dreyfus Architects
Code Studio
RCLCO
Schulze + Grassov
Sadler & Whitehead
Timmons Group
Low Impact Development Center

08.05.14
LOW IMPACT DEVELOPMENT (LID)

- TRANSPERSION + EVAPORATION
- MICROCLIMATE CONTROL
- HABITAT
- Drip zone
- No compaction zone
- Runoff
- Filtration

1. Crashed aggregate
2. Paver-grate
3. Planting soil
4. Structured soil
5. Reflector dome
FURNISHINGS
SEATING & LIGHTING
INTERPRETATION & SIGNAGE
HISTORY, ART & WAYFINDING

• Potential locations for art/interpretation
KEY ISSUES ADDRESSED BY THE PLAN
TRANSPORTATION
WEST MAIN STREET IS...

- A significant vehicular corridor linking downtown to the University and hospital
- The trunk line of the CATS system with the highest density of routes and trips in the system
- The only flat connection between downtown and the University that is comfortable for community/novice cyclists
- A main street currently too narrow for a double stroller to navigate existing sidewalks
- A framework (primary) response street for both fire and ambulance vehicles
- A corridor where institutions and local businesses rely on curbside parking for deliveries, drop off and parking
• **Choice 1:** Provide/retain suboptimal dimensions for one or more users

• **Choice 2:** Do not accommodate all modes and needs (Pick favorites)

• **Choice 3:** Compromise to provide a safe, yet balanced street that accommodates all needs to some degree

**TRANSPORTATION**
**WEST MAIN STREET IS ONLY 60’ WIDE**
TRANSPORTATION
RECOMMENDED DESIGN

• **Balanced street that preserves:**
  » As much parking as possible
  » As much vehicular capacity and flow as possible

• **While...**
  » Enhancing transit rider amenities and accommodation
  » Improving bicycle facility safety
  » Accommodating street trees and green features

• **And meeting our performance goal**
  » To provide sidewalks of adequate width to permit a double-wide stroller on the corridor so it need not be pushed in the street
TRANSPORTATION
PARKING

- 85 existing parking spaces reduced to 52
  - Curbside parking spaces are vital, but not really for parking
  - While a well-managed parking space can have significant economic value to a main street, West Main Street parking is currently effectively unmanaged and underperforming in terms of economic value
  - Managing parking spaces can increase productivity 3-fold and prioritize use by customers
  - On-street parking is a small minority of total parking
**TRANSPORTATION**

**BICYCLES**

- **Safety is the imperative**
  - Dooring – currently very common on the corridor.
  - Accommodations are insufficient to attract users to this mode.
  - Design is a compromise – alternating between protected space (preferred by bicyclists) and adjacent space (necessary to preserve parking).
  - Will vastly improve safety and significantly improve appeal of this travel option for less confident bicyclists.
  - A number of studies have found that enhanced bicycle facilities not only reduce injuries, but increase retail sales and corridor patronage.
» Bus bulbs minimize the amount of curbside space needed for bus stops
» Can improve bus speeds along the corridor (as buses do not need to wait to merge back into traffic)
» Can reduce friction between bicycles and buses
» Provide access to 4th Street
» A bus stop (occupying 2 parking spaces) can generate more than 100 pedestrian trips per hour compared to 30 generated by 2 well managed parking spaces
» Businesses on transit corridors have been found to have higher retail sales than comparable businesses not proximate to transit
Auto accommodation and cut-through risk

» Design does not diminish corridor capacity
» All intersections operate at an acceptable level of service
» The vehicular performance of the corridor does not change measurably from what it is today
» The adjacent street network does not invite cut-through traffic
• **Emergency vehicle accommodation**

  » Maintenance of center turn lane/median space in western segment is measure to ensure efficient emergency response

  » Curb radii have been tested and adjusted to accommodate emergency vehicles

  » Emergency responders support proposed design
EXISTING PUBLIC UTILITIES

• **Water**
  » City and Rivanna Water and Sewer Authority owned/operated
  » Existing City 10” Cast Iron waterline installed in the 1950’s
  » Lines not currently problematic, but approaching the end of service life
  » City recommends upsizing to 12” lines

• **Sanitary Sewer**
  » Majority of gravity sewer recently rehabilitated (lined)
  » Lines in West Main are in satisfactory condition - no improvements recommended
  » Service laterals owned by private property owners (unknown condition)
    • May require adjustment with streetscape or other utility improvements
• **Gas**
  » Existing low pressure 10” cast iron lines installed in 1930’s
  » Lines not currently problematic, but approaching the end of service life
  » City recommends replacing with high pressure line
• **Electric - Dominion Virginia Power**
  
  » Overhead east of bridge
  
  » Mostly underground west of the bridge
    • Portion recently undergrounded with Battle Building construction
  
  » Dominion Virginia Power Strategic Undergrounding Program
    • Request to underground West Main lines (at Dominion’s expense) denied
• **Telecommunications**
  » Comcast
    • Generally follows Dominion’s location
    • Major hub near Ridge/McIntire (south side)
  » Century Link
    • All lines underground
    • Major hub near 4th Street (north side)
  » Lumos
    • Largely follows Dominion’s location
UTILITIES
STRATEGIC RELOCATION OF UTILITIES
UTILITIES
RECOMMENDATIONS FOR IMPROVEMENT

• **Water & Gas replacement (& improved capacity)**
  » Lower cost to DPU if completed with streetscape
    • Certain utility replacement costs reduced (ie., mobilization, excavation/backfill, surface repair, maintenance of traffic, etc.)
    • Takes advantage of streetscape construction operations
  » Preserves streetscape
    • Future trenching into streetscape improvements to replace lines can be avoided
    • Many times maintenance replacement of surface materials is different (in type and/or appearance) if done later
  » Collaborative Design
    • Conflicts will arise (either directly or indirectly) during design with existing utility locations
    • Design of utility replacement with streetscape design allows these to be resolved through the design process
    • Provides for the most ideal location for all stakeholders
**UTILITIES**

**RECOMMENDATIONS FOR IMPROVEMENT**

- **Undergrounding of Overhead Wires**
  - Enhance visual appeal and eliminate conflicts with mature tree canopies
    - Will open up the view shed of West Main
  - Collocation as part of streetscape design
    - Allows for the organized placement into shared duct bank (instead of fighting for space where available)
    - Placement in location that is ideal for access and maintenance
  - Space reserved for future utilities
    - Ability to plan for future providers (i.e., Google Fiber) by providing spare conduit to grow
  - Cost is significant (3 main components)
    - Infrastructure - duct bank, conduit, junctions, etc.
    - New utility equipment required for underground lines (i.e., ground mounted transformers)
    - New underground service connection to each customer
URBAN DESIGN
There is a symbiotic relationship between land use and street vibrancy. Great land uses attract people to a street, and great streets (as public places) bring people into the restaurants, shops, offices, and housing along them. A great street is a place where people want to be: to live, to work, to visit with friends, to shop, and to spend time.
EXISTING ZONING

MIXED USE
R-1
R-2
R-3
PLANNED UNIT DEVELOPMENT
COMMERCIAL
INDUSTRIAL
ADC DISTRICT
CONTRIBUTING STRUCTURE
TYPICAL CROSS-SECTION
WEST OF BRIDGE

EXISTING SPECIAL PERMIT
EXISTING BY-RIGHT
EXISTING APPURTENANCE

PROPOSED
APPURTENANCE

BULK PLANE STARTING POINT VARIES BASED ON HEIGHTS ALLOWED IN ADJACENT DISTRICTS

BY-RIGHT
SIX STORIES MAX.

2 STORIES, 27' MIN. BLDG. HEIGHT
15' MIN. CEILING OF STORY 1

MAX BLDG. HEIGHT - 75'

EXISTING BY-RIGHT
EXISTING SPECIAL PERMIT
EXISTING APPURTENANCE

PROPOSED
APPURTENANCE

BULK PLANE STARTING POINT VARIES BASED ON HEIGHTS ALLOWED IN ADJACENT DISTRICTS

BY-RIGHT
SIX STORIES MAX.

2 STORIES, 27' MIN. BLDG. HEIGHT
15' MIN. CEILING OF STORY 1

PROPERTY LINE

NORTH SIDE
POTENTIAL DEVELOPMENT

WEST MAIN ST. - WEST
URBAN FORM STREET

SOUTH SIDE
POTENTIAL DEVELOPMENT
## TOTAL ESTIMATED CONSTRUCTION COSTS
WITH VALUE ENGINEERING & DESIGN FEES

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streetscape Surface Improvements (Areas A, B)</td>
<td>$13,639,602</td>
</tr>
<tr>
<td>Undergrounding Overhead Utilities (Areas A, B)</td>
<td>$9,633,000</td>
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<tr>
<td>Betterment Utility Work (Areas A, B)</td>
<td>$1,705,775</td>
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<tr>
<td>Design Fees (Areas A, B), includ. opt. services</td>
<td>$2,996,379</td>
</tr>
<tr>
<td><strong>Total cost</strong></td>
<td><strong>$27,974,756</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Relocation (Area C)</td>
<td>$1,752,400</td>
</tr>
<tr>
<td>Design Fees (Area C)</td>
<td>$265,195</td>
</tr>
<tr>
<td><strong>Total cost</strong></td>
<td><strong>$2,017,595</strong></td>
</tr>
</tbody>
</table>

### Map Legend
- **A**: JPA to east end of bridge
- **B**: East end of bridge to Ridge-McIntire
- **C**: West of JPA to Rugby Rd.
IMPLEMENTATION

• The Plan can be implemented in phases
  » East and west of bridge
  » A few blocks at a time
  » Block by block

• Pilot Projects
  » Test key Plan recommendations before permanent construction
  » Low costs to implement
  » May require extensive coordination with other departments and private land owners
  » Initiation of parking management recommendations needed as a first step
WEST MAIN STREET - A GREAT STREET