



The East Bay Bike Path 30 Years Later What Have We Learned?

The East Coast Greenway
New England
Bike-Walk Summit
April 27, 2018

John P. Shevlin, P.E.

&

Amy J. Archer, P.E.



National Context



The Rails-to-Trails Movement

"The U.S. rail trail movement began not with a bang—but as an intriguing idea that quietly took hold in the Midwest in the 1960s and eventually spread across the country."



- The railroad industry was in serious decline.
- The railroad was being eclipsed by automobile and air travel.
- From 1930 to 1970, an estimated 38,000 miles of rail lines were abandoned.
- By 1990, the number jumped to 103,000 miles.



Growing Popularity of Bicycles

- Bicycle sales increased from 6 million in 1971 to 15.3 million in 1973.
- Most pre-boom bikes had been sold for children, suddenly 60% were destined for adults.
- In 1973, 252 bicycle-oriented bills were introduced in 42 states.
- The Federal Aid and Highway Act provided \$120m for bikeways over three years.



The 1978 National Energy Conservation Policy Act

Hints for Safer Bicycling



R.I. Department
of Transportation

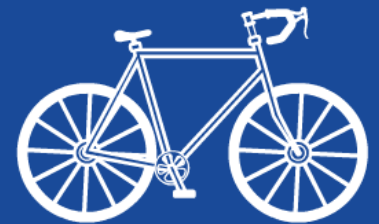
Congress recognizes that bicycles:

- are the most efficient means of transportation
- represent a viable commuting alternative
- offer mobility at speeds as fast as that of cars in urban areas
- provide health benefits
- reduce noise and air pollution
- are relatively inexpensive
- deserve consideration in a comprehensive national energy plan.



The 1982 Surface Transportation Assistance Act

- Increased the national gas tax by 5 cents
- Rhode Island's share is \$430 million over three years
- Some funds are earmarked for bicycle transportation
- Federal funds will cover 100% of the cost of the bike path through the Federal Highway Association (FHWA).



Congress amends the National Trails System Act

- Preserves abandoned rail corridors for future rail -- called "railbanking"
- Allows them to be temporarily repurposed for other uses such as bikeways
- Converts them to interim trails.





**The Fruition
of the
East Bay Bike Path**

The Rail Line



- Part of the Old Colony Railroad
- Built in the mid-1800s for train service from Providence to Bristol
- Multiple owners
- Freight service continued intermittently until the railroad went bankrupt
- Completely abandoned in 1973
- RIDOT purchased the corridor for approximately \$200,000 in 1976.



Railbanking

Many, including RIDOT, believed that the train would come back.

The path was only considered as a placeholder.



Introducing the Concept

RHODE ISLAND BIKEWAYS

A CRITICAL STUDY
AND
A PLAN FOR ACTION

March 1976
by Clinton Andrews



RIPIRG
Rhode Island Public Interest Research Group



In March 1976, Brown Student Clinton Andrews completed an independent study.



Rhode Island Joint Commission

March 1980, Representative Thomas Byrnes introduces a bill to study the use of bicycles as an alternate form of transportation and as an energy saver.

The Joint Commission consisted of six General Assembly Representatives from various statewide towns and one each from:

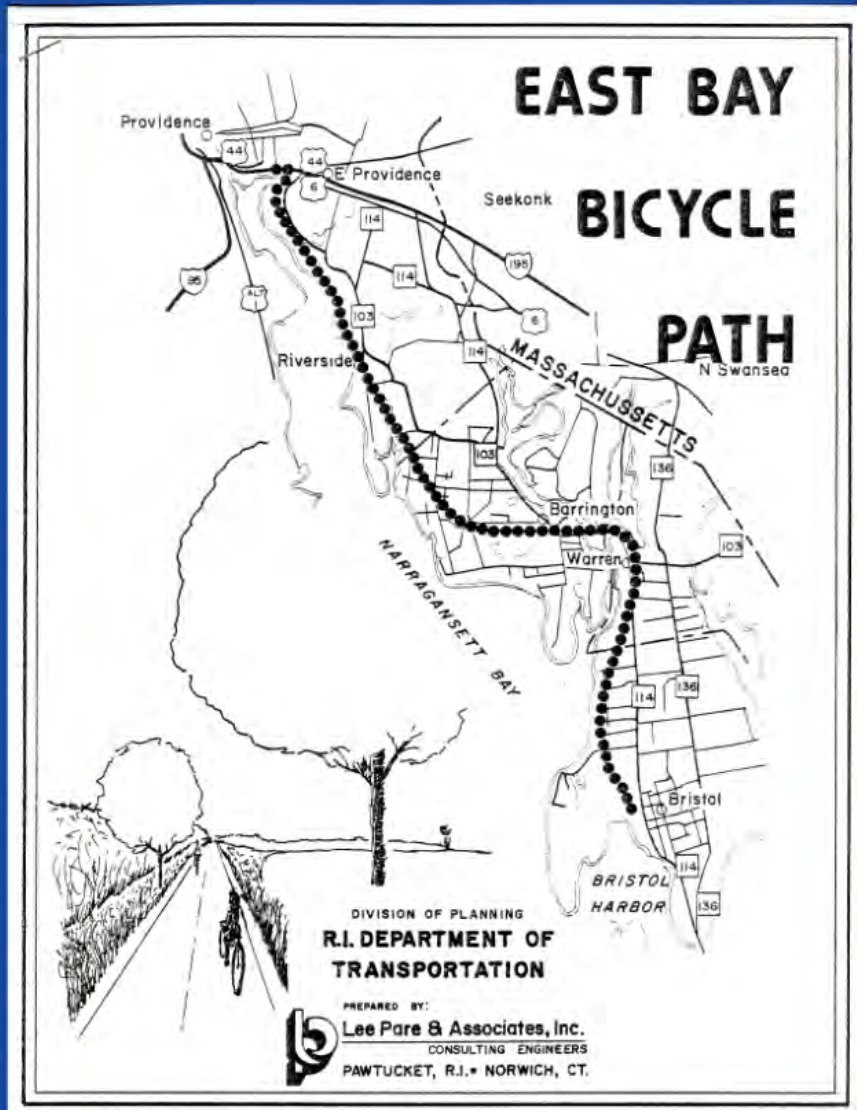
- AMTRAK
- RI Department of Environmental Management
- RI Department of Transportation
- RI Public Transit Authority
- Narragansett Bay Wheelmen / RI Bike Coalition
- Governor's Energy Office



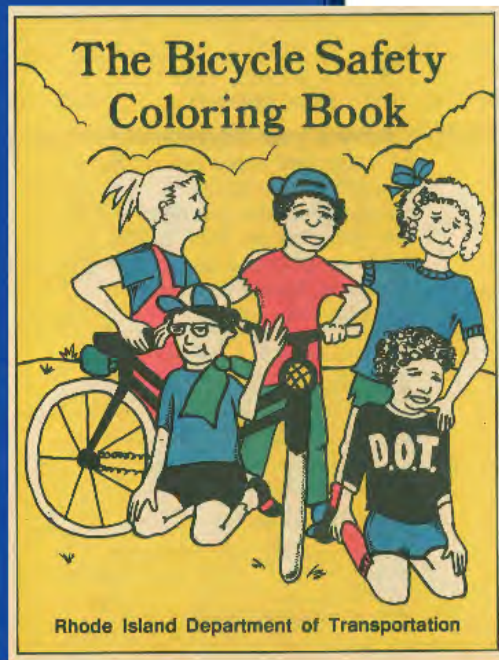
Feasibility Study

Lee Pare & Associates was hired in March 1982 to:

- identify demographic, social and environmental impacts
- garner public input
- recommend the best path route and design
- develop anticipated cost.



Public Outreach



EAST BAY BICYCLE FACILITY

PROVIDENCE TO BRISTOL
CLASS I BICYCLE FACILITY

DOCUMENTATION OF PUBLIC HEARING
HELD JUNE 1, 1983

BARRINGTON MIDDLE SCHOOL
BARRINGTON, RHODE ISLAND

FOR:
Department of Transportation
Planning
Rhode Island

PREPARED BY:
Lee Pare & Associates, Inc.
150 Main Street
Pawtucket, Rhode Island

Extensive outreach in
all communities along
the East Bay.





The Objections

NO TRESPASSING

NO SITTING ON WALLS

NO LOITERING

POLICE TAKE NOTICE

In the News

According to state 5/19/83 - PHOENIX

Bike path funds can be used for other projects

The Bristol County Chamber of Commerce opposes the plan

Federal funding earmarked for a bike path through Bristol County can be used for other transportation projects, according to a state Department of Transportation spokesman.

Last year the DOT had prioritized the top 150 projects in the state and turned away requests for others. Then in February, funds from the gasoline tax and from unexpended 895 appropriations became available and the DOT asked each municipality to submit a list of more projects to be done. A total of 294 projects have been selected.

The federal funding is available, and the bike path (at an estimated cost of \$1.2 million) qualifies for that funding. If it isn't spent on the bike path, the funding could be lost, Arruda said.

Bates said she did not believe, as some people

today's economy.

The chamber also raised the question of security and maintenance.

"Lack of proper control could result in increased vandalism and house breaks along the route," the chamber wrote.

In addition, the chamber felt that the state Department of Parks and Recreation would not be able to maintain the path because of its limited budget and raised the question of the continuing cost of upkeep and repairing the path once it is constructed.

The chamber also listed as a reason for its

"Lack of proper control could result in increased vandalism and house breaks along the route"

"the unduly high cost of the project which would be used by a small portion of the public"

"waste of the taxpayers' money"



Ownership of the Land

Does RI own the land slated for bike path?

A report by one of Rhode Island's leading title examiners shows that the state might not own all of the railroad right-of-way, which has been chosen for the site of a bike path through Bristol County.

A Department of Transportation (DOT) official says the state does have clear title to the land, however, and plans to connect this path with a second one proposed along the right-of-way from Woonsocket to East Providence.

Findings of Francis E Mullen, hired by the DOT to make a title examination of the property, were made known in an April 6 letter to Gov J Joseph Garrahy from Arthur M Read, state representative in District 87 (Barrington).

Mullen's reports show that the state does not have clear title to even a major portion of the land in question.

The land was acquired from Conrail and the now defunct Penn Central Railroad over the past century in a variety of ways, Read wrote. Some of it was purchased and title of this land is not in question.

But some lots were deeded to the railroad with the restriction that they would revert to the owners in the event railroad activity should cease.

"Therefore, it is clear that the state's ownership to much of this land is in grave doubt," Read wrote.

To continue with plans for the path through Bristol County would mean the rightful owners of the land could bring suit against the state and claim title to the land before or even after the path were built.

JOSEPH ARRUDA, CHIEF of the DOT's Planning Division said, however, that the state does have title to the property even though most railroad

activity has ceased because there still is the opportunity to continue rail freight service along the right-of-way.

The corridor is being preserved and freight trains could run next to the bike path, Arruda said. If the property were found to have reverted to the original heirs, the state simply would condemn the property and pay the owners fair market value at the time. Federal funds would be available for that expense, he said.

In his letter to the governor, Read suggested this procedure, called eminent domain, would be the only way the state can legally acquire title to the land, although it would be an expensive and time-consuming procedure.

Meanwhile, Read questioned the use of the federal funds slated to finance the \$1.2 million bike path because they are earmarked for transportation, not recreational purposes.

The bike path is being designed as a transportation facility, however, according to Arruda. The path will reduce traffic on nearby highways and many bikers will be able to use the path to commute to work.

The path will not interfere with plans for a Park-N-Ride facility planned for the old freight station on Franklin Street, Warren. In fact, commuters from Bristol, for example, would be able to ride their bikes to the Park N Ride, lock their bikes in racks there and carpool into Providence, Arruda said.

Meanwhile, Arruda said the DOT would work in conjunction with the DEM to acquire federal funding for the bike path proposed for Woonsocket to East Providence. The Bristol County path is seen by the state as the beginning of a major system in

the state, he said.

A portion of the corridor in East Providence still is used for freight purposes, however, and that poses a problem as to where the two paths would connect, he said.

It was also suggested that the land "should be sold to abutting property owners (to generate) tax revenue for the towns."

Phoenix 9/19/83



Major Objections

- Will attract crime, graffiti & vandalism
- Decrease property value
- Increase noise
- Safety Concerns
- Waste of Taxpayers' Money
- Many called the path “idiotic”, “ludicrous”, and a “criminal’s highway”.



Escalation of Opposition

1984:

The RI Senate passes resolution to stop construction of the bike path.

Opposition reaches the Federal level. A letter of opposition is sent to the Reagan White House.

1985:

Bristol Town Council reverses itself and withdraws its support of the path.



Garnering Public Support



April 13, 1985 the Hikers Club of RI conducts “Walk the Bike Path” to overcome objections and garner support.



"the perfect confluence of people and talents"

"It was one of the toughest things I ever did in state government, because of really deep seated opposition from many politically connected people. I think Representative Tom Byrnes and I drove Governor Garrahy crazy and many times he wished the whole thing would just go away, but eventually we persevered.

In later years Governor Garrahy said that there were few projects which gave him more headaches while he was in office, but that after it was done he got more positive comments about it than any other thing that he had ever done."

Ed Wood

RIDEM and RIDOT Director



A photograph of a man standing on a wooden railway track in a field. The man is wearing a dark jacket and a red scarf. The track is made of wooden planks and metal rails, and it curves into the distance. In the background, there is a pond and some trees. The text "Building the Path" is overlaid on the image in orange.

Building the Path

Rhode Island Act 82-H 7762 Section 31-2-23 (J)



Rhode Island State Law Introduced March 11, 1982

“to establish a definition of a bicycle trail or path now being constructed by the state to be used for bicycles, excluding motor vehicles from therefrom and provide penalties of persons operating motor vehicles thereon”

Any person who operates a motor vehicle upon any bicycle trail or path shall be guilty of a misdemeanor, punishable by a fine of One Hundred (\$100.00) Dollars



Funding and Cost

- Pare's original estimate was \$1.3 million dollars
- November 1984, the FHWA awards \$1.3 million
- 100% federal funded by FHWA
- Final Cost \$7.5 Million (\$517,000 per mile)
- Today's cost of average mile ranges \$5k to \$535k.



Giving the Narragansett Bay Coastline to the Public



- Construction began May 1986
- 14.4 miles constructed in four phases
- Connects 5 communities
- Joins 8 parks together
- 49 crossings, 2 signalized
- Ten-foot-wide asphalt path
- Five rehabilitated railroad bridges.



Maintenance

RIDEM Parks & Recreation:

- mowing
- trimming
- weedwacking
- split-rail fence maintenance

RIDOT :

- pavement
- structures
- repairs over \$5k

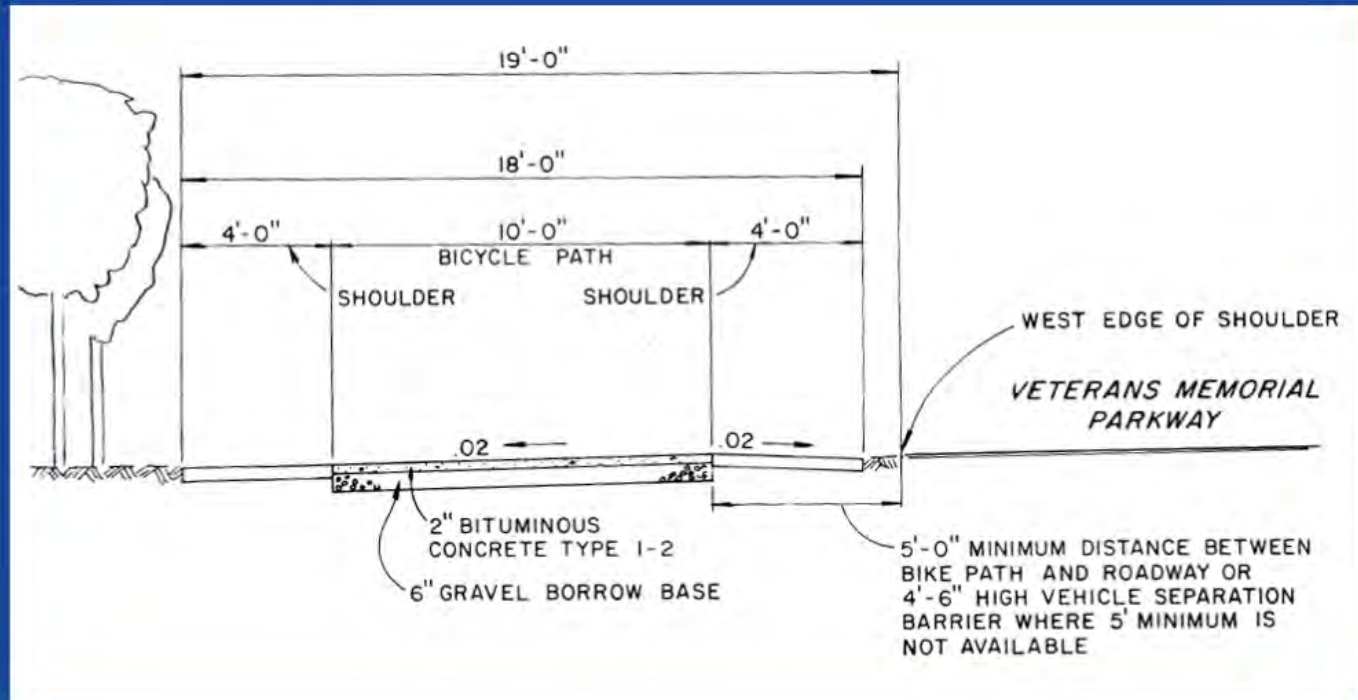




Path Design and Innovations

Typical Section

- 2" Asphalt
- 6" Gravel
- 10' Paved
- 4' Shoulders



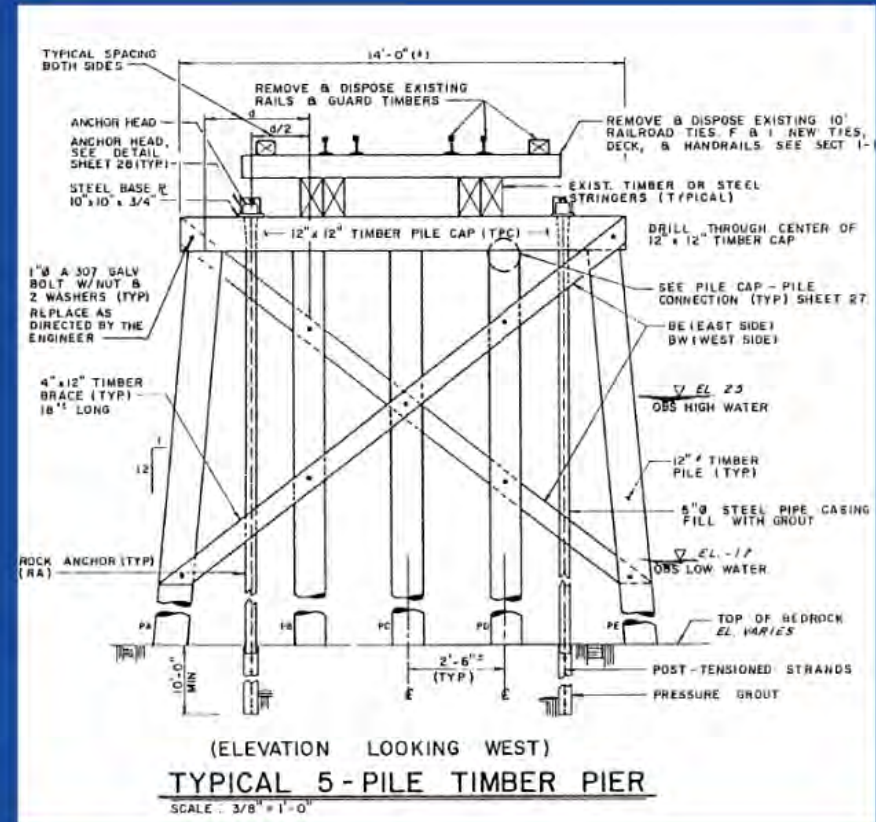
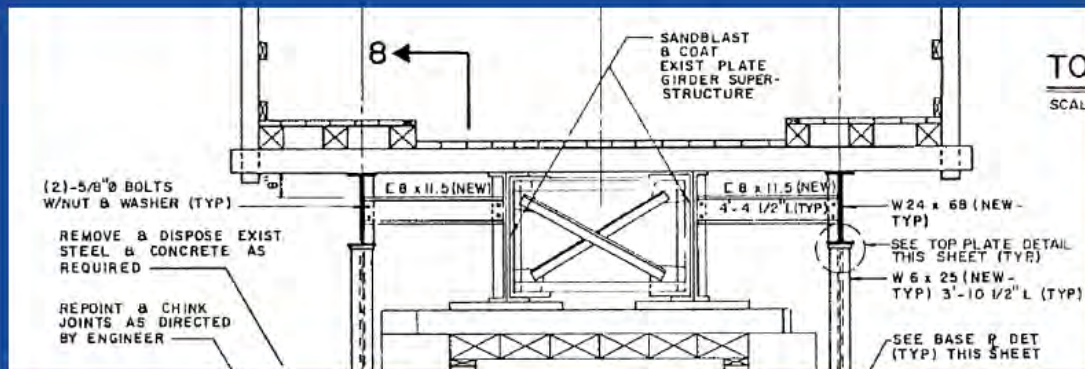
The proposed bicycle facility will be constructed with sufficient width to allow for two cyclists and lateral movement between them.

However, ten feet is given as the minimum desirable width of a two-way bicycle facility, allowing for two feet of additional maneuverability.



Bridge Rehab and Design

- Maintain rail substructures
- Re-deck with timber planks
- Sidewalks for fisherman



Design Criteria

Design Speed =
20 mph

Design Radii =
33' / 63'

The minimum design speed for a bicycle path should be 20 mph (AASHTO, 1981). This speed can be achieved on a paved surface over level terrain with no curves. The actual average speed of the majority of bicyclists (85%) with these conditions is 15 mph, although much higher speeds can be reached by cyclists who have the capability of doing so.

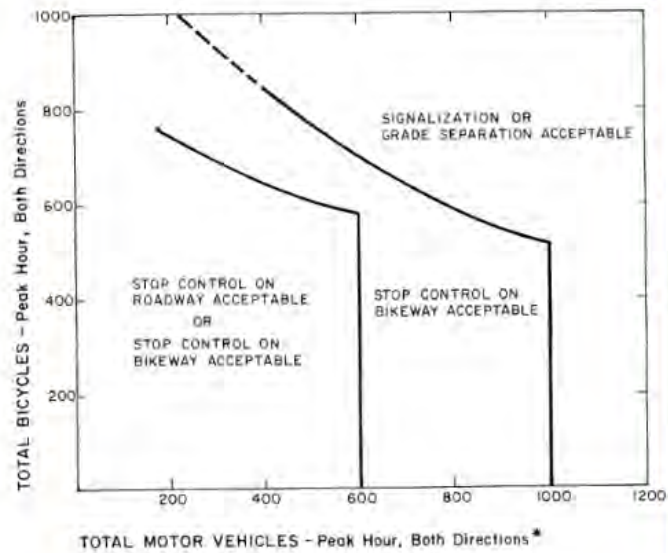
<u>Design Speed</u> (mph)	<u>Radius (ft)</u>	
	<u>FHWA</u>	<u>AASHTO*</u>
10	17.5	17
15	25	35
20	33	63
25	40	100
30	48	143

*e = 2%



Intersection Treatments

TRAFFIC CONTROL WARRANTS FOR INDEPENDENT PATHS CROSSING ROADWAYS



*FOR STOP ON BIKEWAY, MOTOR VEHICLE VOLUME IS TOTAL IN BOTH DIRECTIONS. FOR STOP ON ROADWAY MOTOR VEHICLE VOLUME IS TOTAL IN PEAK DIRECTION.

SOURCE: FHWA

FIGURE 2-7

TRAFFIC CONTROL WARRANTS

EAST BAY BICYCLE FACILITY



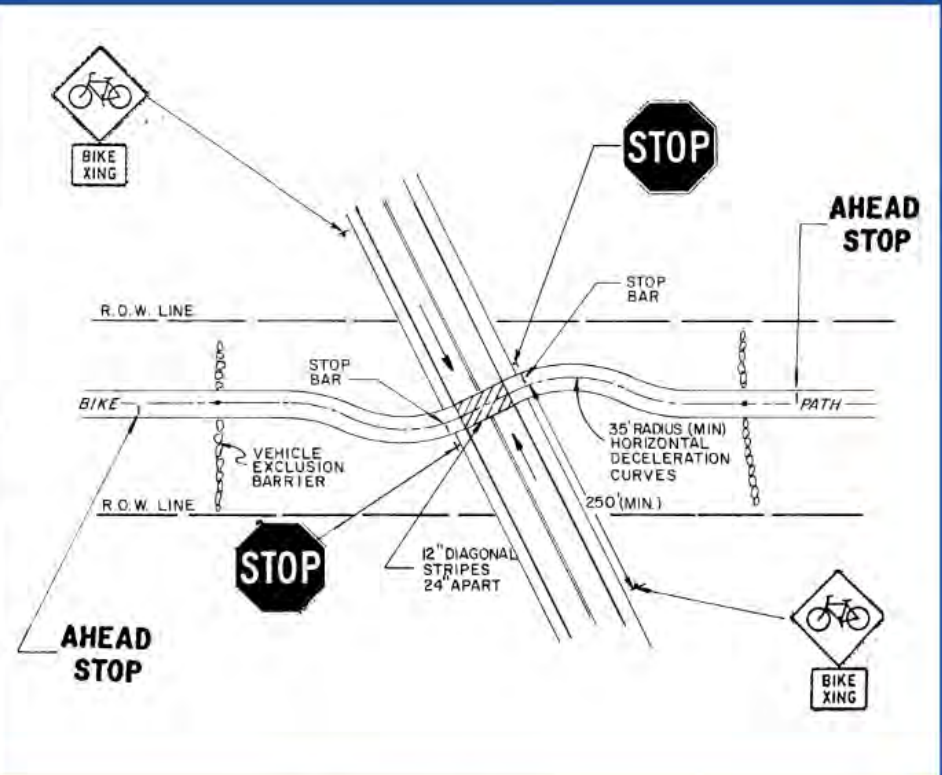
150 Main Street - Pawtucket - RI 02860
161 Water Street - Norwich - CT 06360



150 Main Street - Pawtucket - RI 02860
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FIGURE 2-9
TRAFFIC CONTROL AT TYPICAL INTERSECTION

EAST BAY BICYCLE FACILITY



S-Curves

Signalization



Signage and Striping



Root Barriers



Geosynthetic root barriers installed along path edges in appropriate areas.



Minimal Impact = Minimal Permitting

10-b Environmental

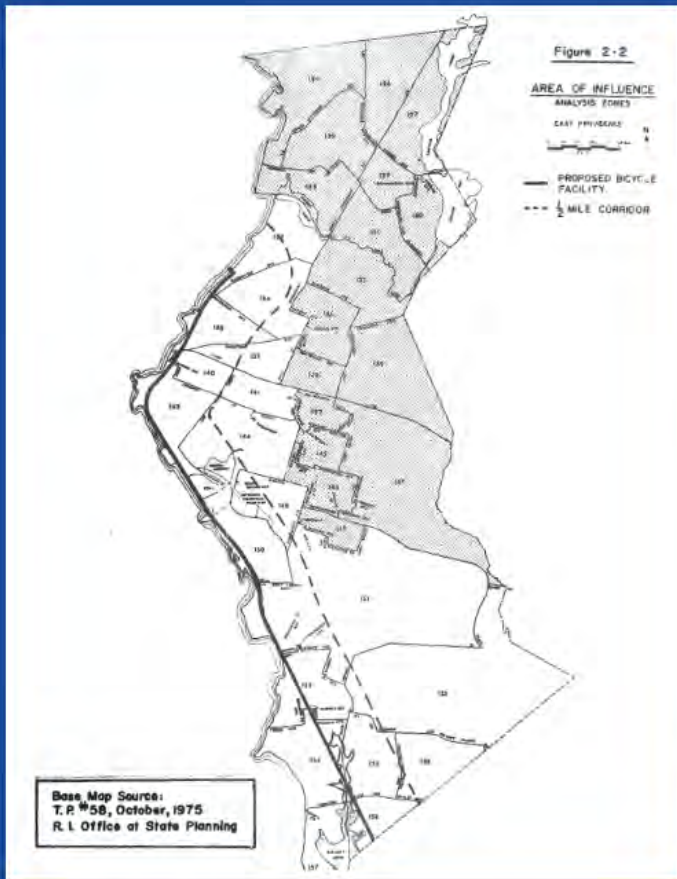
The bicycle path project was given a Catagorical Exclusion classification by the Federal Highway Administration, removing the requirement that the study include a detailed environmental assessment.

In addition, the runoff from the bikeway pavement will be free from pollutants such as oil, lead and asbestos deposited on roadways from automobile emissions.

A bikeway, unlike a roadway, will have no negative impacts on the air quality of the surrounding area. Instead, by encouraging people to switch to a non-polluting mode of transportation, the bicycle path will have a positive impact on air quality.



Ridership Projections



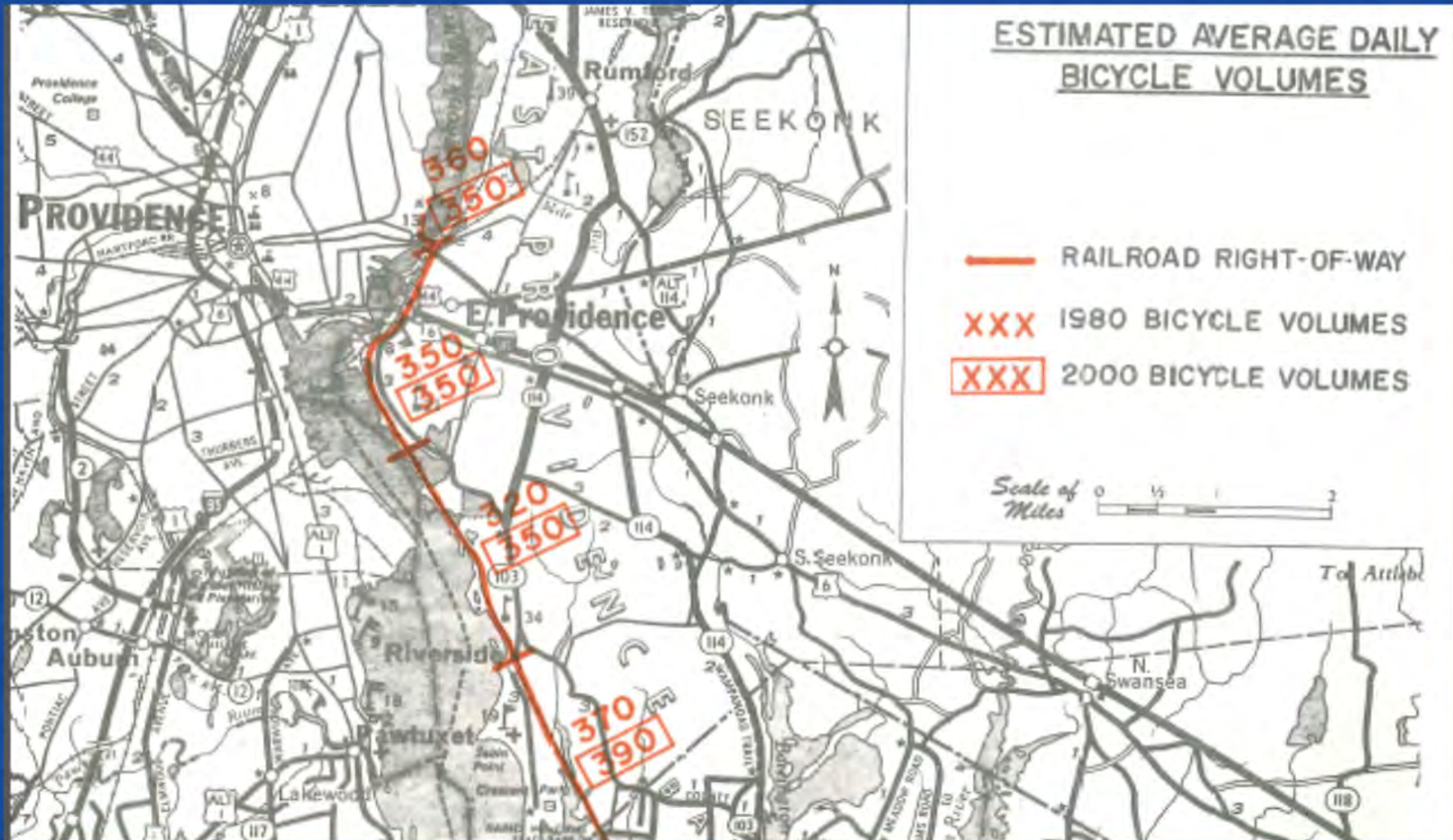
Area of Influence

Trip Purposes	Estimated Average Daily Bicycle Trips
<u>Utilitarian/Destination</u>	
To Work	4.9/1000 Emp.
To School	20.3/1000 Enroll.
To Personal Business	11.5/1000 Pop.
<u>Recreational/Destination</u>	
To Recreational Facility	19.1/1000 Pop.
<u>Recreational/Non-Destinational</u>	
To Visit Friends	22.4/1000 Pop.
Riding in Neighborhood	57.3/1000 Pop.
Long Distance	2.6/1000 Pop.

Trip Gen Calcs



Ridership Projections



Impact
on the
Community



Comparing the Objections to the Reality

Concern: Attract crime, graffiti and vandalism

Reality: Self-monitored and community pride

Infrequent incidents not isolated to the path per local police

Concern: Waste of money

Reality: "Best investment in the State" per local abutter



Property Values

Concern - Decreased property values

Reality - Incentive for buyers -
mentioned in 20% of real estate listings



"Enjoy being steps from the bike path, marina, Hines Memorial State Park, and of course the Barrington School System!"

"Walk to the town, harbor shops, and the bike path!"



Spurring Economic Development



BULLETIN	
NORTHBOUND	
TRAIN NO	DUE
ESPRESSO (12 oz. cup)	2.75
COSTARO (12 oz. cup)	2.75
AMERICANO (12 oz. cup)	2.50/3.75
CAPPUCCINO (8 oz.)	3.00
LATTE (12 oz. cup)	3.75/3.75
ICED LATTE (12 oz. cup)	3.50/4.25
TEAS	HOT TEA 2.50
	ICED TEA 2.50/3.25



Points of Interest

Audubon Society of RI Environmental Center.....	1401 Hope St.
Blithewold Mansion and Grounds.....	101 Ferry Rd.
Bristol Art Museum.....	10 Wardwell St.
Bristol Historical and Preservation Society.....	48 Court St.
Bristol Maritime Center.....	127 Thames St.
Bristol Town Hall.....	10 Court St.
Coggeshall Farm Museum.....	1 Colt Dr.
Herreshoff Marine Museum.....	1 Burnside St.
Linden Place Museum.....	500 Hope St.
Mount Hope Farm.....	250 Metacom Ave.
Quinta Gamelin Community Center.....	101 Asylum Rd.
Roger Williams University.....	1 Old Ferry Rd.
Rogers Free Library.....	525 Hope St.
Town Beach Complex.....	40 Asylum Rd.



MainStreetGIS

MainStreetGIS, LLC

www.mainstreetgis.com

This map is for planning purposes only.

Print Date: 9/18/2017

Data sources: RIGIS, E911, MassGIS, Town of Bristol

RIGIS

And Tourism, Too!

Providence, RI 866-807-2171

MARRIOTT PROVIDENCE DOWNTOWN

Make a Reservation 03/23/2018 03/24/2018 Rooms Guests CHECK AVAILABILITY

Bike Providence Package

Home > Specials & Packages > Bike Providence Package

BIKE PROVIDENCE

Experience Providence from a Totally New Perspective - on two wheels!

When you upgrade your stay, you are upgrading your experience. Book the Bike Providence package and receive 2 top-of-the-line bicycles designed for the Providence Marriott Downtown by Priority Bikes. Your rental is for 6 hours and that should give you plenty of time to discover Providence.

THIS PACKAGE INCLUDES

- Overnight accommodations
- Maps to cool places to go in Providence
- Bicycle rental for up to 6 hours
- East Bay Bike Path Map and Information

We have created maps for you that display routes from a quick three mile trip to the historic East Side or the famous Federal Hill - be satiated and well as mesmerized.

The **East Bay Bike Path** is the first multi-town bike path built in Rhode Island. It travels 14.5 miles from India Point Park in Providence to Bristol, passing parks, lots of nature and recreation areas. Connecting neighborhoods, schools and business districts, the East Bay commuting cyclists heading into Providence.

Our Bike Providence Team has created partnerships with restaurants and even a Bike Shop along the East Bay Bike Path. Stop by your room key or your Providence Marriott water bottle, you will receive special treatment. It's great to have connections. Be sure to share your bicycling adventures and tag us @providencemarriott and use #providenceconnections

View other RI Bike Paths
Other Bicycling Maps

BOOK NOW

6 TR

THE NEW YORK TIMES, SUNDAY, SEPTEMBER 3, 2000

FRUGAL TRAVELER

A Ramble, Without a Car, Through Rhode Island

Photographs by Deborah McLane

APPALACHIAN MOUNTAIN CLUB

DISCOVER Rhode Island

AMC guide to the best hiking, biking, and paddling

Christie Matheson



Make a Reservation

03/23/2018



03/24/2018



Rooms



Guests



CHECK AVAILABILITY

Bike Providence Package

Like 0



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BIKE PROVIDENCE

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[View other RI Bike Paths](#)

[Other Bicycling Maps](#)

BOOK NOW

APPALACHIAN MOUNTAINS

DISCOVER
Rhode Island

Lessons Learned



"A victim of its own success"



Path has become an attraction/destination

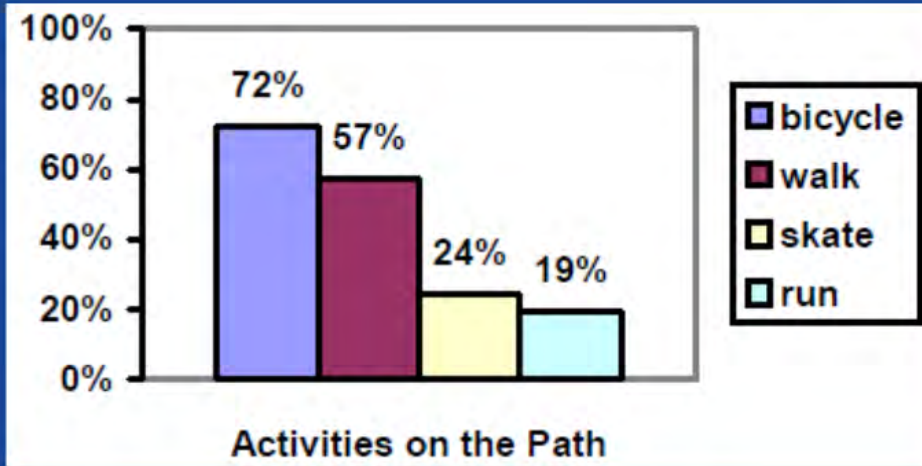
- Actual ridership nearing 1 Mil/year

Largest complaint is limited width

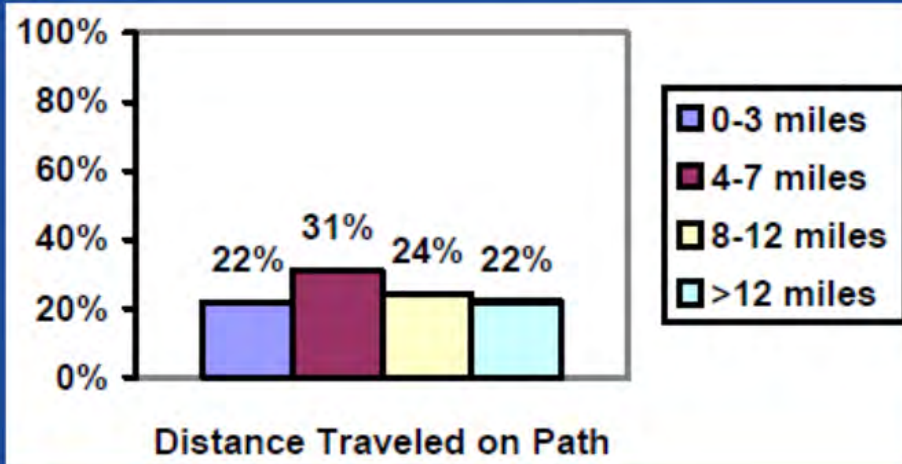
- Current AASHTO: 12 – 14'



Range of Users



Multi-Modal With
Desired Connections
to Transit



Ridership Projections

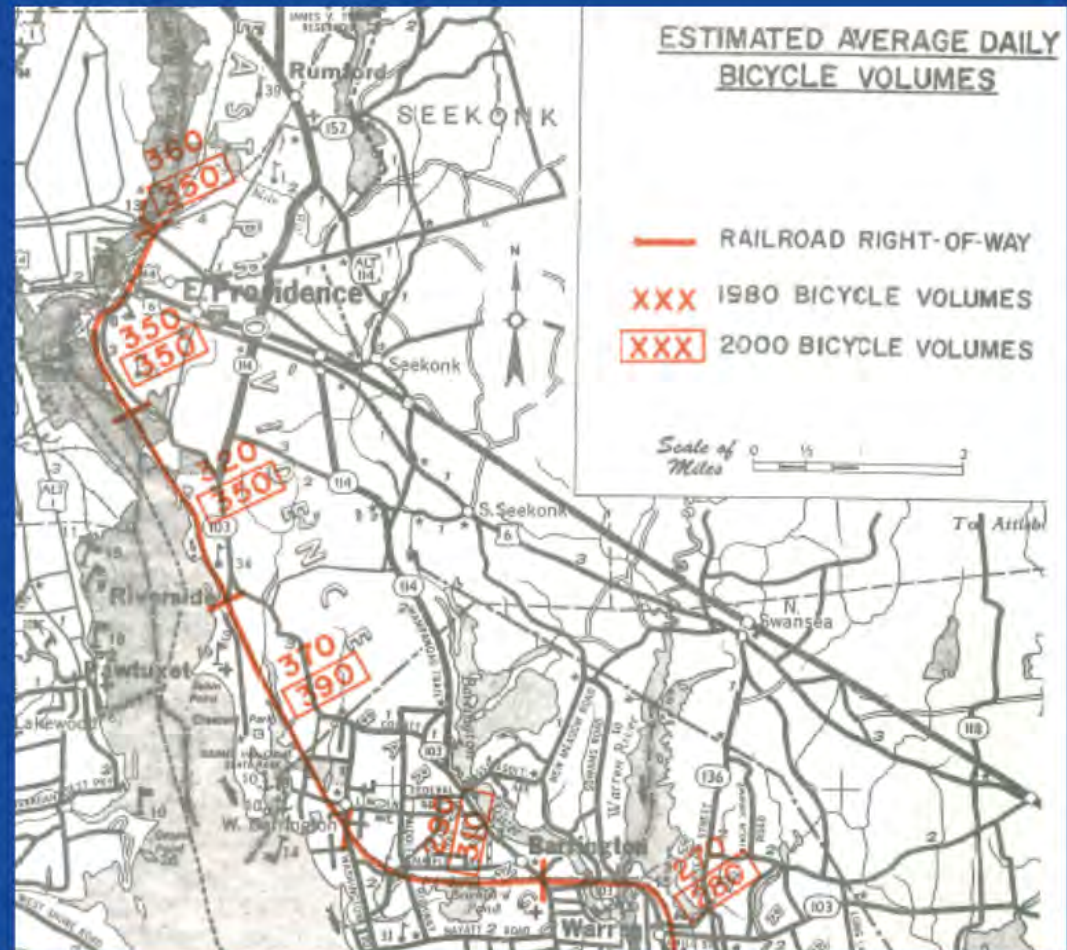
Peak-Hour Ridership
nearing Daily Projections

RI Bike Mobility Plan

Weekday AM	40
Weekday PM	105
Weekend Peak	246

Minuteman

Weekday AM	325		243
Weekday PM	435		307
Weekend Peak	342		171



Maintenance

- Edge deterioration
- Split-rail design
- Fencing impacts mowing



Root Barriers



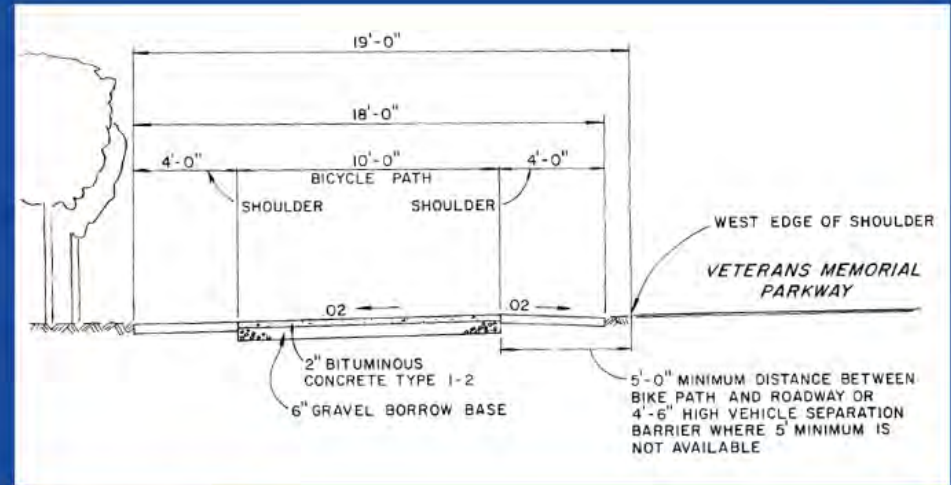
- Need to be stronger
- New plantings should have limited root systems.



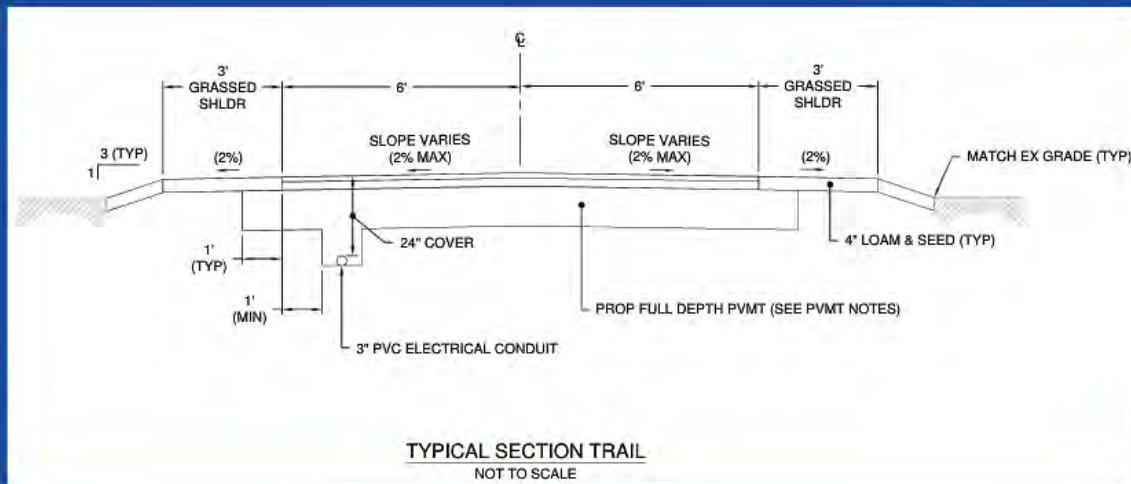
Typical Section

Current Designs

- Widen paved width – 12 to 14'
- Increase paved depth – 4" thickness
- Subbase under shoulder



East Bay Bike Path

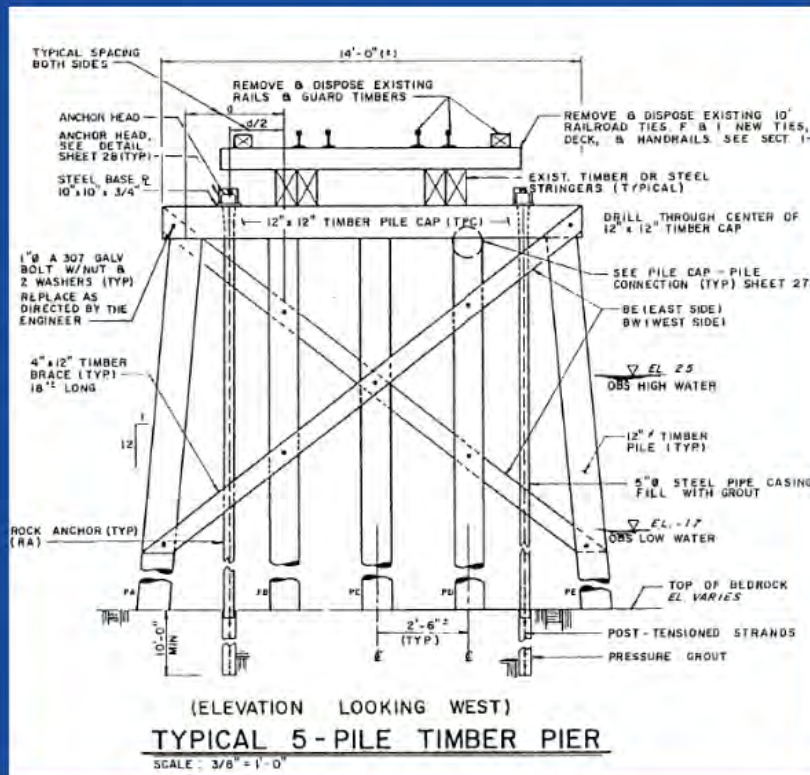


Waltham Wayside Trail

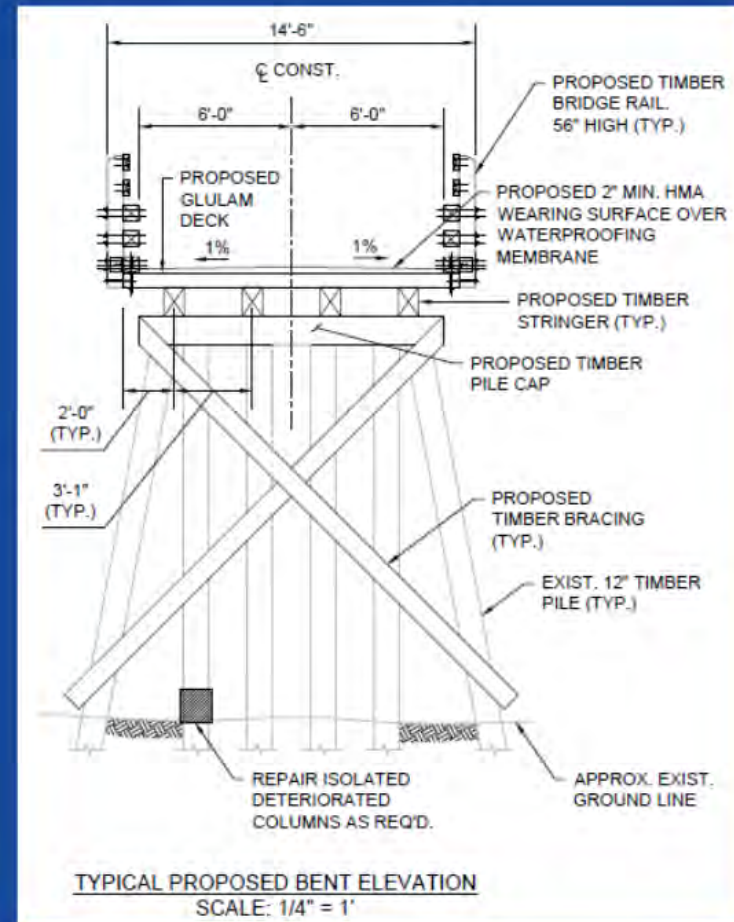


Bridge Rehab

- Rails-to-Trails
- Maintain rail substructures



East Bay Bike Path

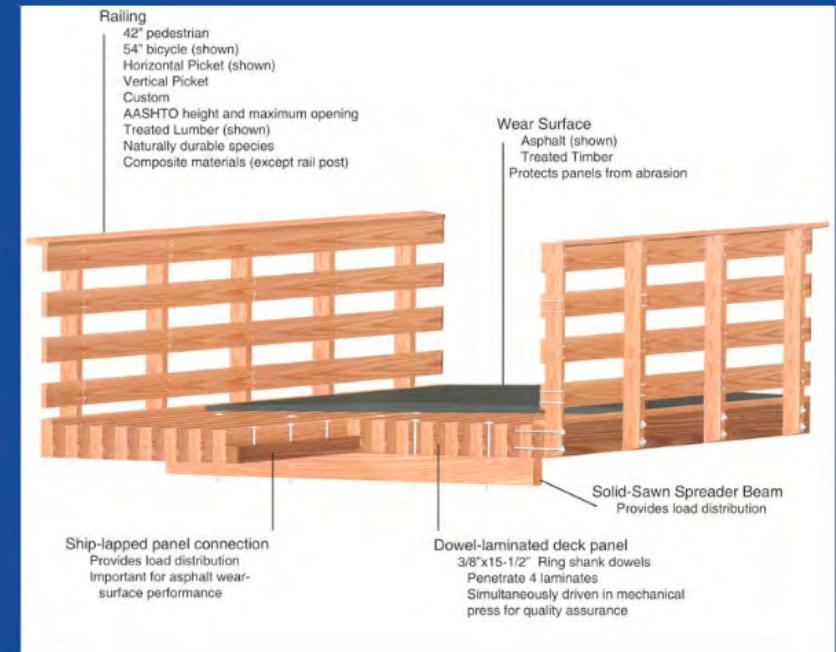


Waltham Wayside Trail



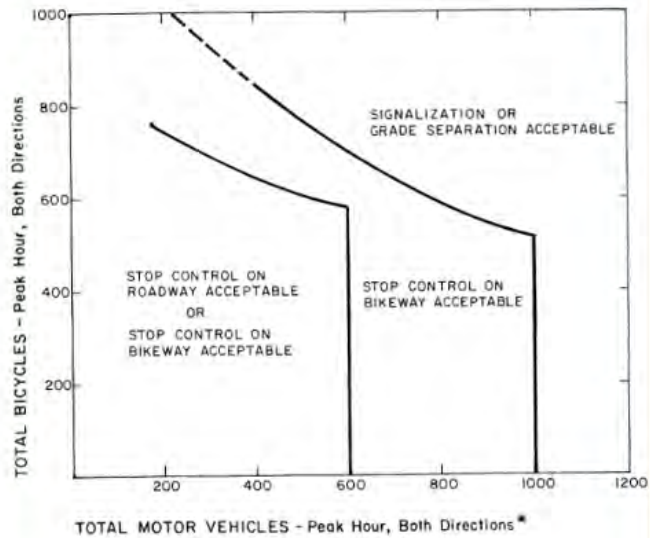
Bridge Decking

- Re-deck with Glulam
- Wearing surface



Intersection Treatments - Signalization

TRAFFIC CONTROL WARRANTS FOR INDEPENDENT PATHS CROSSING ROADWAYS



*FOR STOP ON BIKEWAY, MOTOR VEHICLE VOLUME IS TOTAL IN BOTH DIRECTIONS. FOR STOP ON ROADWAY MOTOR VEHICLE VOLUME IS TOTAL IN PEAK DIRECTION

SOURCE: FHWA

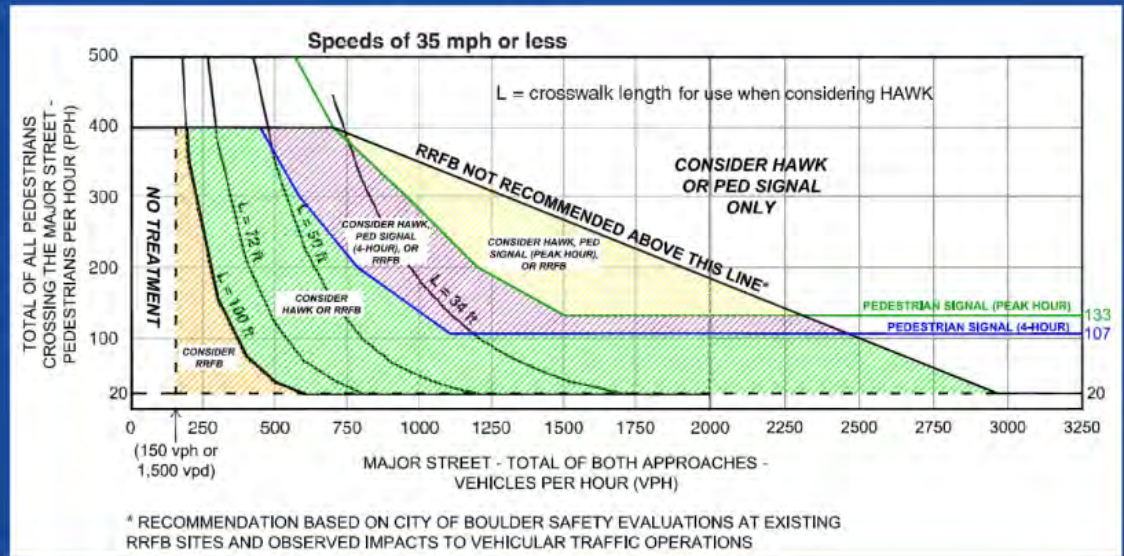
FIGURE 2-7

TRAFFIC CONTROL WARRANTS

EAST BAY BICYCLE FACILITY

Lee Pare & Associates, Inc.
CONSULTING ENGINEERS
150 Main Street - Pawtucket - RI 02860
161 Water Street - Norwich - CT 06360

East Bay Bike Path



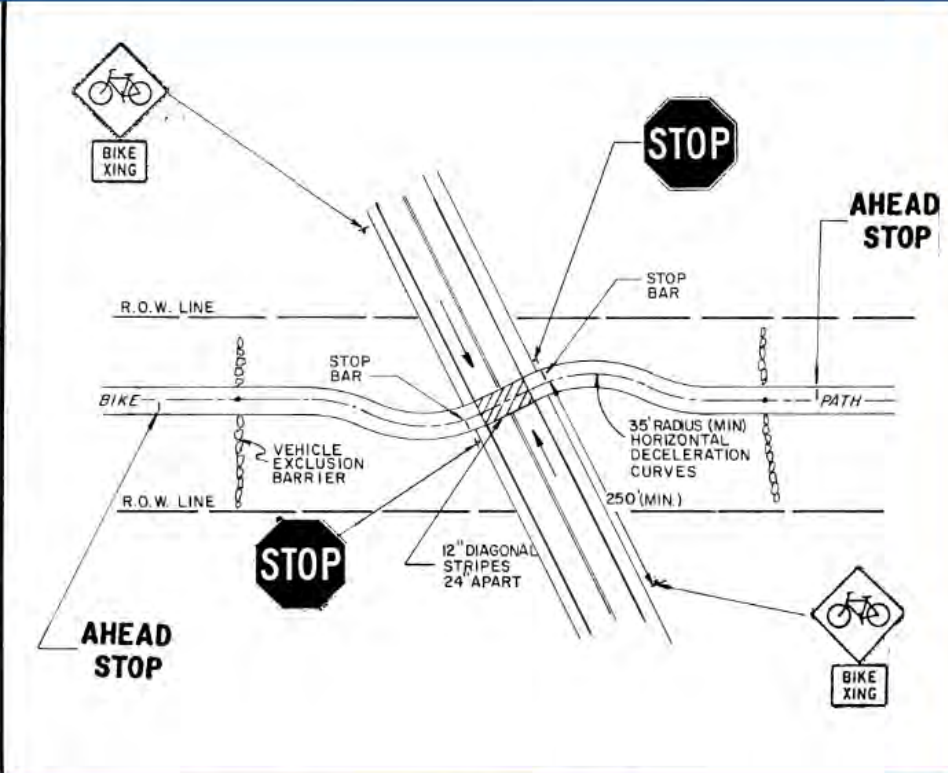
Waltham Wayside Trail



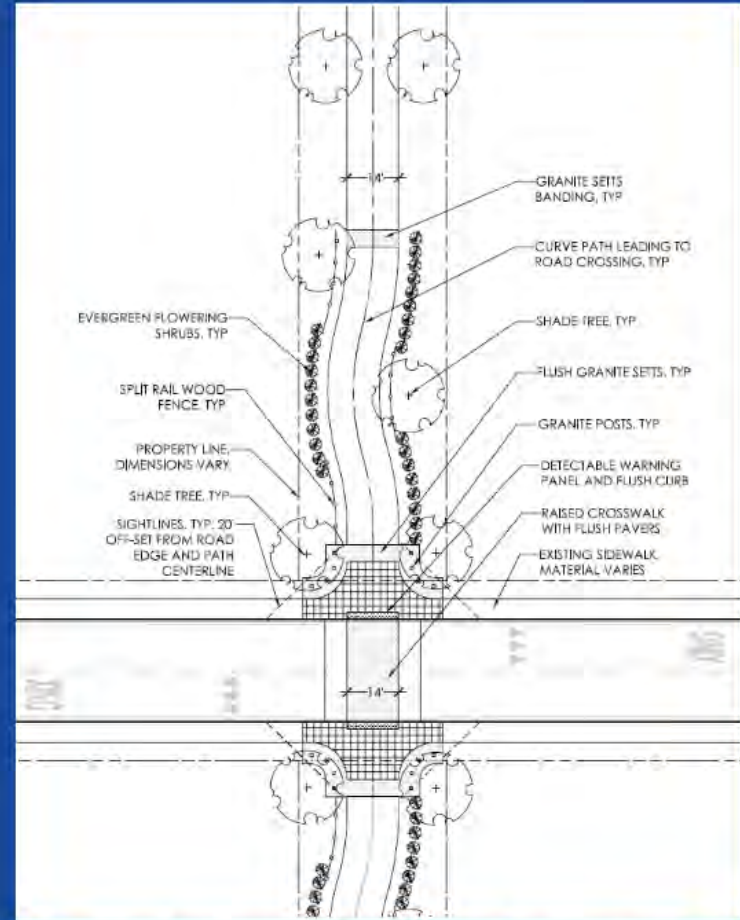
Intersection Treatments - S-Curves


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EAST BAY BICYCLE FACILITY
 TRAFFIC CONTROL AT TYPICAL INTERSECTION
 FIGURE 2-9



East Bay Bike Path



Waltham Wayside Trail



Signing Lasts Longer Than Striping



Additional Amenities





**30 Years in
Retrospect**

What We Have Learned ?

Time Tested Elements

- Rails-to-Trails
- Feasibility Study
- Public Outreach
- Design Criteria
- Bridge Rehab Methods
- S-Curves

Obstacles Overcome

- State/Municipality Reservations

Areas for Improvement

- Increased Paved Width
- Increased Paved Depth
- Bridge Deck Material
- Root Barrier/Maintenance

Continuing Trends

- Public Opposition
- **Need for strong advocacy!**



**Our thanks to the many people who
took the time to answer our questions
and share their memories of the
creation of the East Bay Bike Path.**





www.parecorp.com

John P. Shevlin, P.E.
jshevlin@parecorp.com

Amy J. Archer, P.E.
aarcher@parecorp.com

