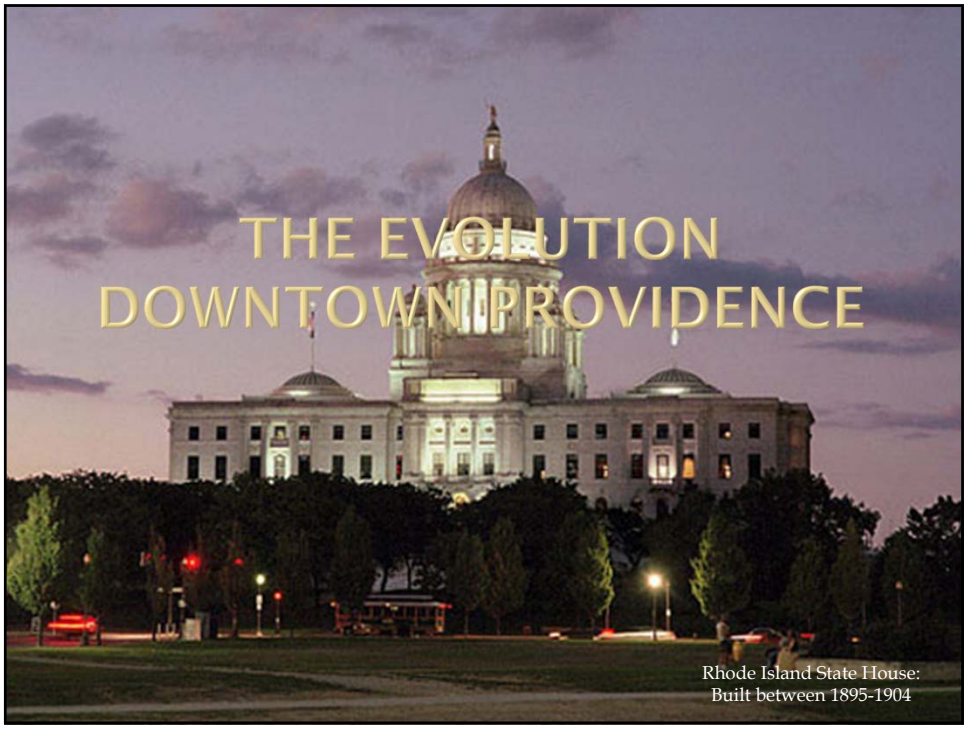
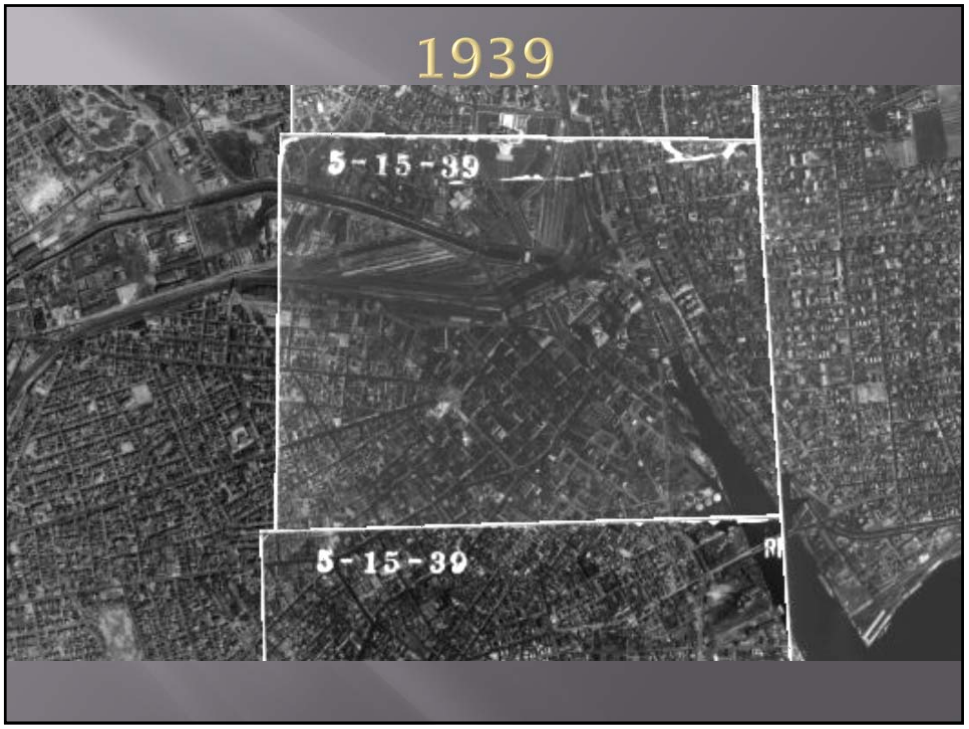


Providence, RI: Quick Facts

- Providence is the 3rd largest city in New England and is one of the first cities established in the United States.
- Providence was founded in 1636 by Roger Williams, who was exiled from the Mass. Bay Colony.

Providence, RI: Quick Facts

- After being one of the first cities in the country to industrialize, Providence became noted for its jewelry and silverware industry.
- Today, the City of Providence is home to eight hospitals and seven institutions of higher learning, all of which have shifted the city's economy into service industries, though it still retains significant manufacturing activity.

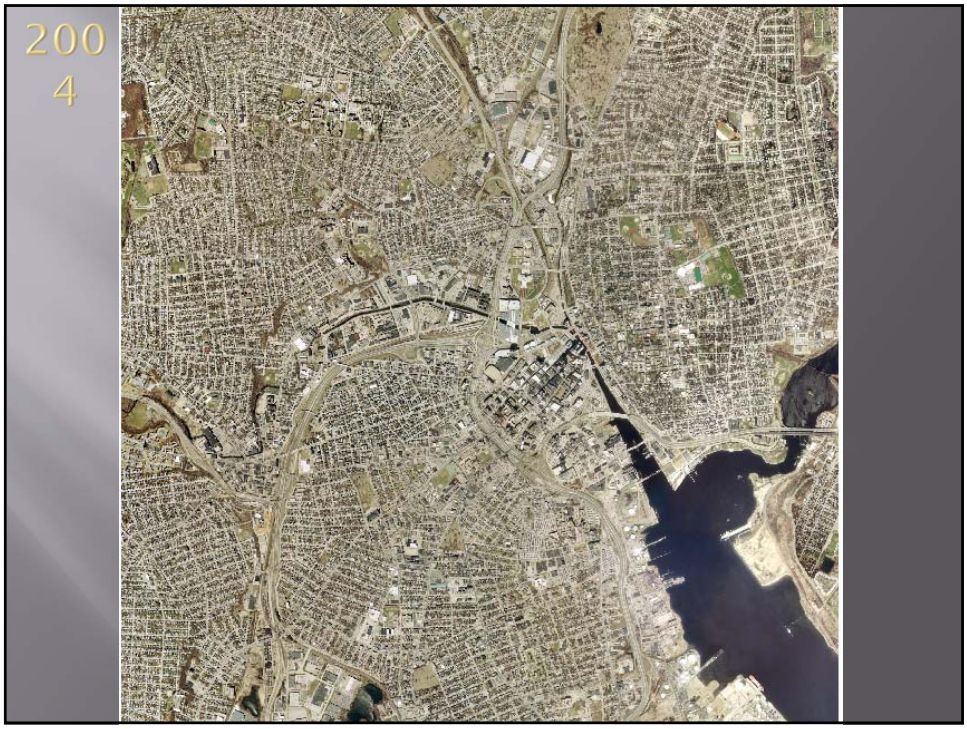

1939
5-15-39
5-15-39

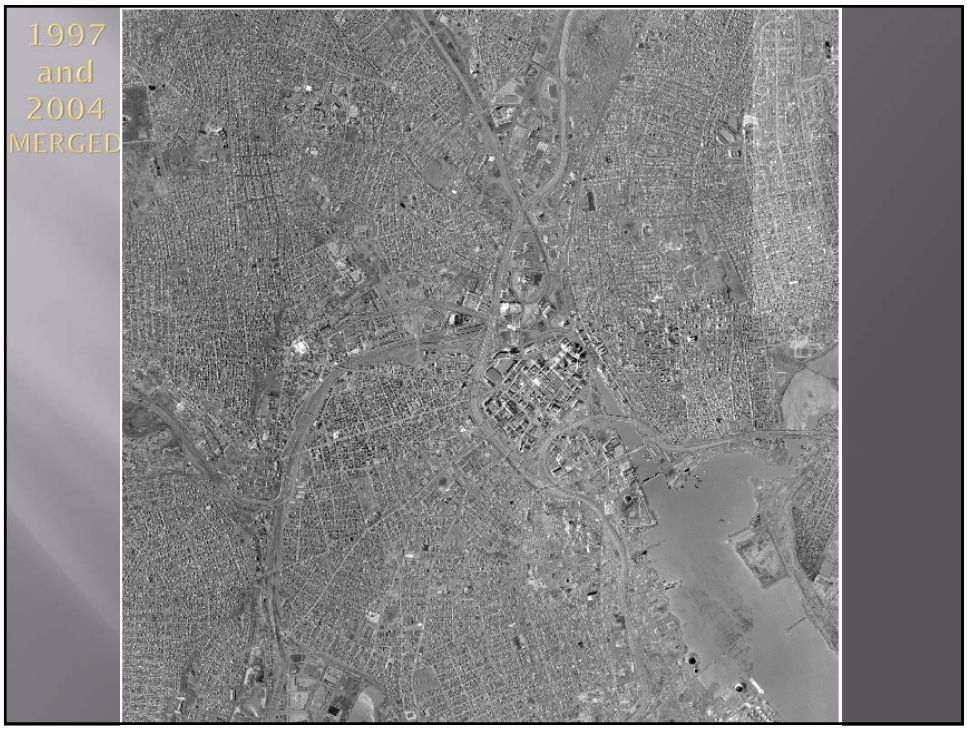

2012
4/2/2012
Providence RI
Google earth

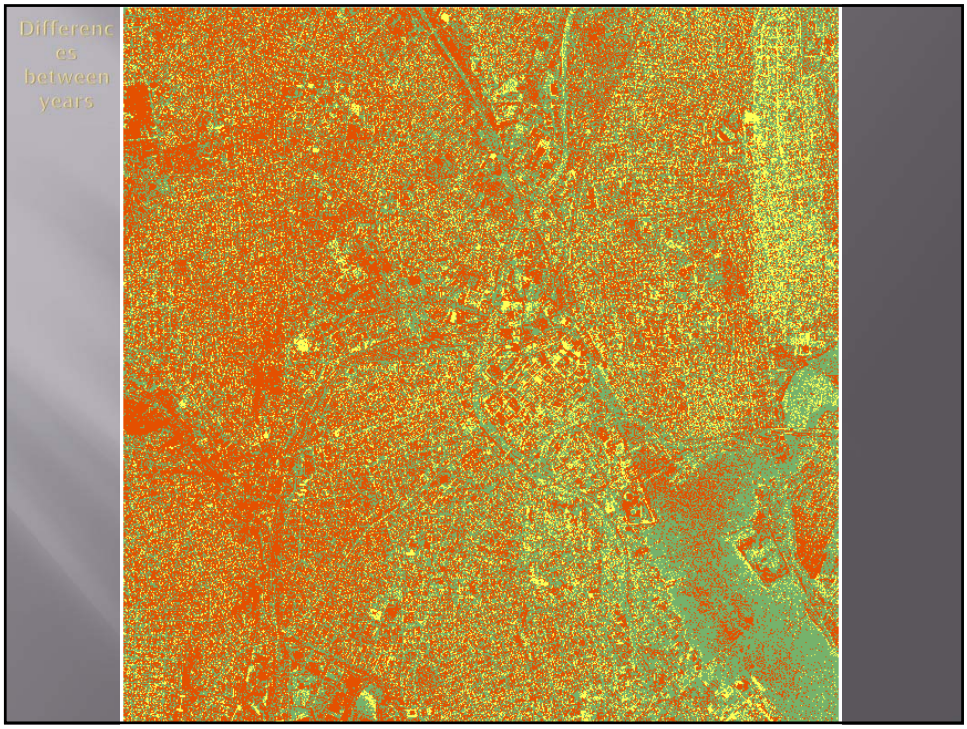
How did it get there?

- A vast number of changes happened between 1939 and present day that I could not reproduce and visually display clearly through ERDAS.
- The following slides show the two starting photo mosaics which I created followed by the two images merged and lastly change detection between the two images.

1997


200
4


1997
and
2004
MERGED



Problems with Data:

- Earlier data pre-1997 (1939-1996)and later data post 2004 (2004-2012) was due to geo-referencing problems as well as scale issues.
- Other problems that I see with using ERDAS for change detection in urban landscapes is that it picks up on the finest of changes
  - Example: different road/roof textures, building shadows, cars, etc.
- Geo-referenced images do not always line up 100% minor differences that may not even be visible
  - ie: slightly different seams between years causing slightly different principle points causing minor changes in how buildings appear

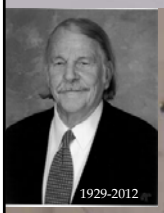
What have been the major changes in Providence?

- Major Changes Included:
  - Infrastructure improvements
    - River relocation
    - Railroad relocation
    - IWAY relocation project
  - Fox Point Hurricane Barrier
  - Development of downtown
    - Including Providence Place Mall

Pre river relocation(1987)

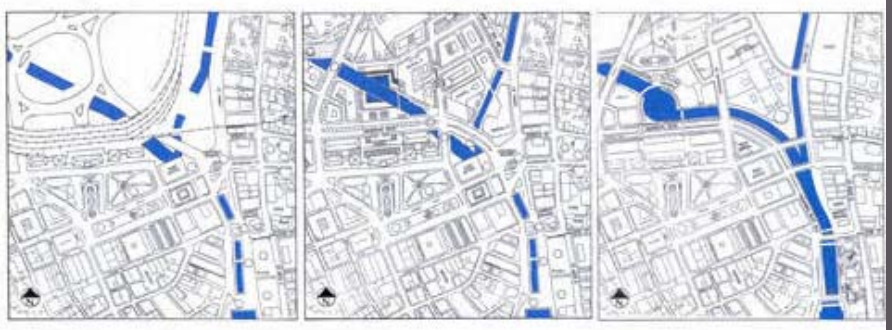
1987 view of Memorial Square (Suicide Circle) showing the rivers covered with decking, parked cars, and the confusing maze of traffic patterns.

William D. Warner



Linen napkin that Warner initially drew out his plans for the relocation on while out drinking with friends after work.

- William Warner was an architect in Rhode Island since the late 1959 and he is responsible for most of the changes that occurred in Providence
- His major contributions
  - River relocation
  - I-195 relocation
  - Providence Place Mall
  - India Point Park



1980 Site Conditions

Elevated railroad tracks known as the Chinese Wall and parking lots separate Downtown from the State House.

1981 Capital Center Plan

Relocated the railroad tracks to beneath an extension of the State House lawn, provided a Downtown interchange at Route I-95, constructed a new railroad station above the tracks, and transformed parking lots ringing the south end of the State House lawn into development parcels.

1984 River Relocation Plan

(From the Providence Waterfront Study) Capital Center did not address the decking covering the rivers, the traffic congestion at the north end of the decking where the boulevard abruptly ended at Memorial Square, nor did it provide funding for the design and implementation of the 4-acre Waterplace Park. The Waterplace Park and River Relocation Project addressed all of these issues.

William D. Warner Architects and Planners

Conclusion:

- I did not get the outcome I was looking for from the data I used as I was hoping to have an output file that you would clearly be able to see the changes.
- If I were to do this again I would geo- reference and correct the 1939 photo data "forcefully" and create a mosaic and overlay the 2004 data or newer over it to see the changes in the landscape over 65 years which should produce a fairly interesting data set.

- Explain what I was looking for

- Display 1997 b&w

- Display 2003/04 color

- Display display the change highlight file

- Explain the problems of this file.

- Data 1997 b&w geotiff at 1:5k
- Data 2003/4 color geotiff at 1:5k
- Problems with flights or the tinest degrees of alteration causes problems

- Show zoom in on state house explain that this hasn't changed yet the change thingy displayed it as changed

- Using the change detection in an urban environment is highly impractical due to the vast variety of buildings and man made structures that can could have a different roof and etc or new pavement vs old etc etc.

- If I were to do this again I would geo reference the 1939 data and create a mosaic and overlay the 2003 data over it to see the changes in the landscape since 1939 or 65 years of imagery. Or even 2010/2011