

City of Newark ROW Management Assessment and Priority System

Project Briefing
June 11, 2009



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Project Goals

- Perform an inventory and evaluation of street conditions
- Populate Asset Management System
- Optional service and systems for additional infrastructure management needs
- Training
- System support



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Baker Team

- Michael Baker Jr., Inc.
 - Prime Consultant
- GoodPointe Technologies
 - ICON Pavement Software
- Lambda Tech International
 - Imaging van and feature extraction software
- ACT Engineers, Inc. (DBE)
 - Imaging and feature extraction assistance

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Project Phases

- Phase 1 – Inventory and Pavement Condition Assessment
 - Funded at \$195,334
 - Completed in 2008
- Phase 2 – Other Asset Inventory
 - Unfunded
- Re-Occurring Inventory and Maintenance



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Project Approach

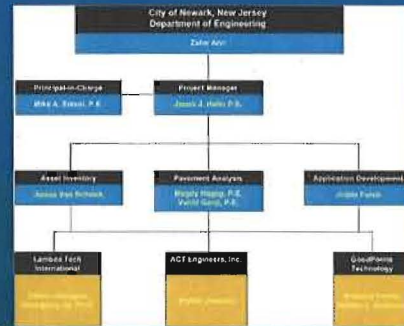
- Using vehicle based digital image collection and feature extraction techniques to populate an off-the-shelf asset/pavement management system (ICON)



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Project Staffing

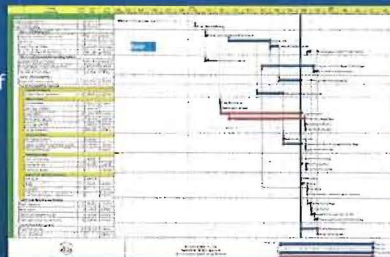


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Project History

- Baker team selected
6/12/2006
- Project Kickoff
7/17/2007
- Phase 1 Data
Delivered
7/9/2008



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Phase 1 Tasks

- Linear Reference System development
- ICON Pavement Management Software procurement, implementation & training
- GIS file development
- Image inventory along city streets
- Image-based pavement condition rating
- Straight Line Diagram development
- Videolog development



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Linear Referencing System Development



LINEID	STREET NAME	SR	From	To
1	1000 AVENUE	020010	SAFET	OFFICE BUILDING
2	1000 AVENUE	020010	ARCADE BL	OFFICE BUILDING
3	1000 AVENUE	020010	ARCADE BL	WILSON BL
4	1000 AVENUE	020010	ARCADE BL	TRINITY AVE
5	1000 AVENUE	020010	ARCADE BL	WILSON BL
6	1000 AVENUE	020010	ARCADE BL	WILSON BL
7	1000 AVENUE	020010	ARCADE BL	WILSON BL
8	1000 AVENUE	020010	ARCADE BL	WILSON BL
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11	1000 AVENUE	020010	ARCADE BL	WILSON BL
12	1000 AVENUE	020010	ARCADE BL	WILSON BL
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14	1000 AVENUE	020010	ARCADE BL	WILSON BL
15	1000 AVENUE	020010	ARCADE BL	WILSON BL
16	1000 AVENUE	020010	ARCADE BL	WILSON BL
17	1000 AVENUE	020010	ARCADE BL	WILSON BL
18	1000 AVENUE	020010	ARCADE BL	WILSON BL
19	1000 AVENUE	020010	ARCADE BL	WILSON BL
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21	1000 AVENUE	020010	ARCADE BL	WILSON BL
22	1000 AVENUE	020010	ARCADE BL	WILSON BL
23	1000 AVENUE	020010	ARCADE BL	WILSON BL
24	1000 AVENUE	020010	ARCADE BL	WILSON BL
25	1000 AVENUE	020010	ARCADE BL	WILSON BL
26	1000 AVENUE	020010	ARCADE BL	WILSON BL
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28	1000 AVENUE	020010	ARCADE BL	WILSON BL
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Image Collection



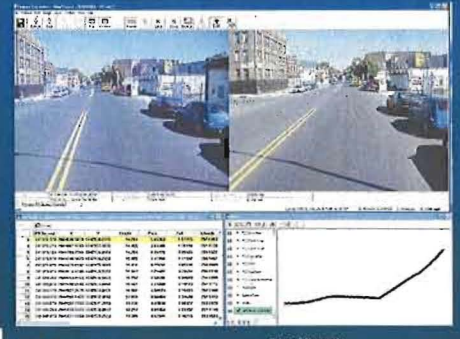
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GIS File Development



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Feature Extraction



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Pavement Feature Extraction

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Newark SLD

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ICON Asset Database

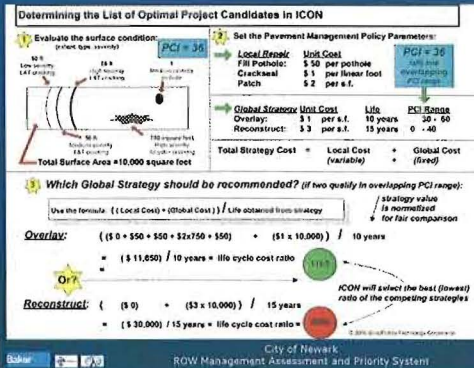
Station Type	Station ID	Station Name	Station Address	Station Description	Station Status	Station Date	Station Time	Station Location	Station Coordinates	Station Data
1	0	0th District	SHD							
1	3	3rd District	FDL							
1	4	4th District	SL							
1	5	5th District	IM							
1	6	6th District	SL							
1	7	7th District	SL							
1	8	8th District	SL							
1	9	9th District	SL							
1	10	10th District	SL							
1	11	11th District	SL							
1	12	12th District	SL							
1	13	13th District	SL							
1	14	14th District	SL							
1	15	15th District	SL							
1	16	16th District	SL							
1	17	17th District	SL							
1	18	18th District	SL							
1	19	19th District	SL							
1	20	20th District	SL							
1	21	21st District	SL							
1	22	22nd District	SL							
1	23	23rd District	SL							
1	24	24th District	SL							
1	25	25th District	SL							

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Videolog

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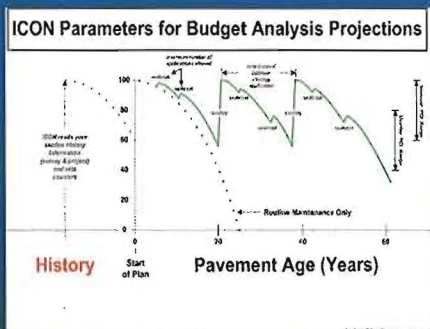
ICON Decision Support



Deliverables

- Linear-referenced street network with SRI and milepost values assigned
 - GIS layer of street network
 - ICON Pavement/Asset Management System software with unlimited concurrent users
 - Populated pavement condition data in ICON
 - Street level images with Videolog
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Budget Analysis



Proposed Phase 2 Tasks

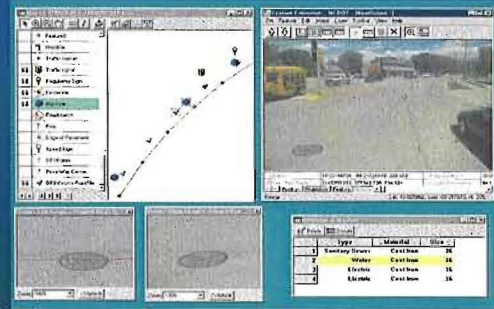
- Feature extraction of non-pavement features
 - Sidewalks/Pedestrian Ramps
 - Guiderail
 - Bridges
 - Traffic Control (Signs/Signals)
 - Manholes/Utilities
 - Drainage
 - Etc.
 - ICON Sign and ROW management modules
 - Procurement
 - Implementation
 - Training
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Traffic Control Feature Extraction



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Signal/Utility Feature Extraction



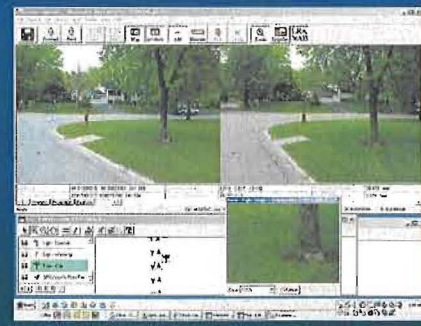
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Traffic Control Feature Extraction

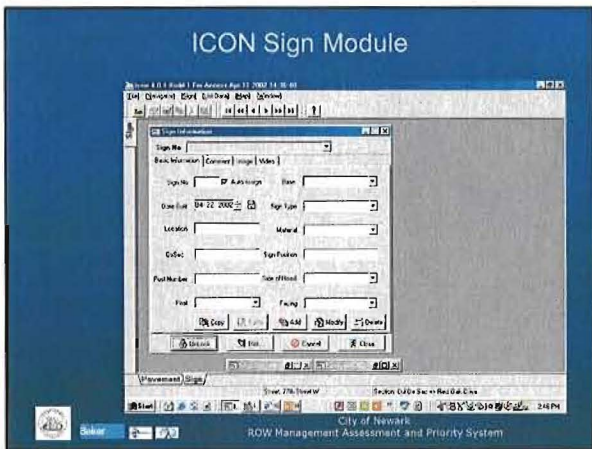
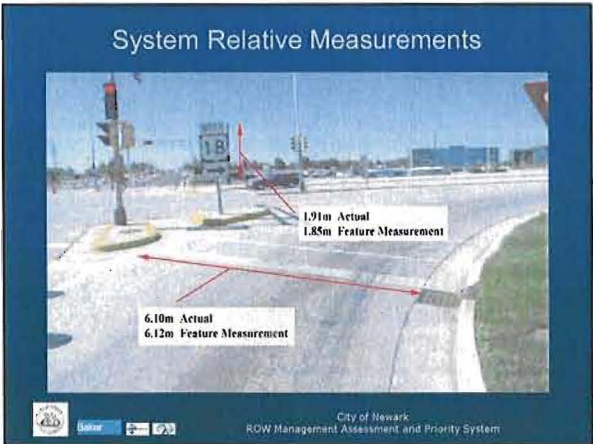
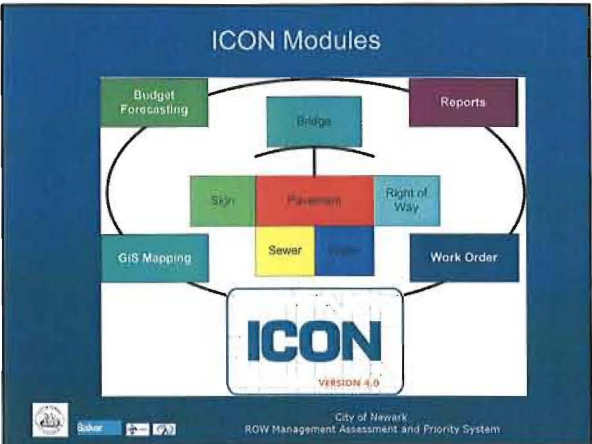


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Any Visible Feature



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- ### Optional Re-Occurring Tasks
- Re-imaging of city streets to capture new digital images
 - Feature extraction of pavement condition
 - Other feature extraction
 - Updating Videolog and SLD with latest data
 - Annual ICON support
 - ICON User Group membership
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