Mobile GIS
Sidewalk Inspection Program

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I LOVE the GIS
A Shout Out for Public Works
The general appearance of such a metalled road and footway is shown in an existing street of Pompeii.

(A). Native earth, leveled and, if necessary, rammed tight.
(B). Statumen: stones of a size to fill the hand.
(C). Audits: rubble or concrete of broken stones and lime.
(D). Nucleus: kernel or bedding of fine cement made of pounded potshards and lime.
(E). Dorsum or agger viae: the elliptical surface or crown of the road (media stratae eminencia) made of polygonal blocks of silex (basaltic lava) or rectangular blocks of sanum gisculatum (travertine, peperino, or other stone of the country). The upper surface was designed to cast off rain or water like the shell of a tortoise. The lower surfaces of the separate stones, here shown as flat, were sometimes cut to a point or edge in order to grasp the nucleus, or next layer, more firmly.
(F). Crepido, margo or semita: raised footway, or sidewalk, on each side of the via.
(G). Umbones or edge-stones.
Are you a Public Works Guy or GIS Guy?
GIS Browser
A Window Into the City
Who owns this GIS?
Hopefully everyone!
Who’s editing that data?
Sidewalk Inspection Program
Where We Started

- Liability issues
- No sidewalk assets
- 3 prior successful infraMap implementations
What did we have to figure out?

• **When** was the sidewalk inspected?
• **Where** are defects?
• **What** repair is required?
• **When** was the defect recorded?
• **When** was the defect repaired?
What We Developed

• Easy to use field inspection program
• Fast repairs to sidewalks
• Automated work order creation
• Realistic sidewalk replacement contract
• Accurate daily contract management
Principles

- Sidewalks are assets
- Defects are NOT assets
- Defects are ephemeral (hopefully!)
Developing Sidewalk Assets
Give it to a contractor!

- Nobel Systems, Inc.
- Corner to Corner
- Abstract/Imprecise
  Is the Goal!
What Kinds of Defects?
Actually what kinds of fixes...

Replacement  Grind  Fill
What else do we want to know?

- Curb and Gutter
- Driveway Approach
- Tree
- High Traffic Area
- Curb Ramp
infraMap Implementation

- Feature Class
- Activity Table
- Coded Domains
- Map
- Forms
- Replication
- CMMS Integration
Feature and Table Attributes

**Feature Class**
- ID
- Asset Attributes
- Inspection Attributes

**Activity Table**
- ID
- Inspection Attributes
Sidewalk Defect Inspection Attributes

• Created By
• Created Date
• Last Activity
• Repair Type R/G/F
• Length and Width of Sidewalk Replacement
• Driveway Approach Y/N

• Grind By
• Grind Date
• Cold Patch By
• Cold Patch Date
• Replacement By
• Replacement Date
• Replacement Square Feet
Coded Domains

Make it easy for the field staff
Maps and Forms

- infraMap Forms Connect to Map Layer
- Activity Attribute – Unlocks Form Fields
Replication

- Replication Settings Within infraMap
- Check In/Check Out Replication
- Replica from Service Center Version
CMMS Integration

- .xml file from infraMap
- .xml file into MaintStar
- Work Order created with assets assigned
So what do the Field Crews do?

• Start at the corner
• Walk a block
• Record defects along the way
• Get to the next corner and mark sidewalk as inspected
Performing Repairs

- Select a Layer
- Select Single or Multiple Assets
- Select an Activity
- Complete the Form
Going Out with the Grinder
Contract Preparation

- Map Driven Pages
- List of All Replacements Needed
PROJECT LOCATIONS
Appendix 1: Sidewalk Replacements Required
Map Page 34 of 85
Sidewalk Replacement
Contract Management

- Observe and Direct Pours
- Record Replacements
- Export Excel Report from infraMap
- Reconcile Contract Every Afternoon
# Concrete Replacement Project

## Nightly Cost Tracking

<table>
<thead>
<tr>
<th>Contract Amount</th>
<th>Sidewalk cost to date</th>
<th>Drive apron cost to date</th>
<th>Curb/gutter cost to date</th>
<th>Contract Amount Remaining</th>
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</thead>
<tbody>
<tr>
<td>$0 k</td>
<td>$100 k</td>
<td>$200 k</td>
<td>$300 k</td>
<td>$400 k</td>
</tr>
<tr>
<td>$500 k</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Wins

• 560 Miles of Sidewalk to Maintain
• Simple Design – Easy to Use
• Integration with CMMS
• Predictable Replacement Contract Outcomes
Contact Information

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