MapMerger Helps Recology Reduce Waste

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Recology, Inc. is a regional waste and recycling company with collection and disposal sites located throughout California and Oregon. Nationally recognized for its ecologically sound practices and green values, the company processes municipal solid waste with the goal of reclaiming usable materials that would otherwise contribute to the massive amount of waste sent to landfills each day. Recology has the highest landfill diversion rate in the United States.

The Challenge:

Recology relies on GIS data both to organize optimally efficient collection routes and to set up new service areas as the company expands. However, the small alleyways and service roads where dumpsters are most frequently located rarely show up in the standard data purchased from NAVTEQ. As a result, for years Recology mapping technicians were forced to spend weeks manually editing their GIS data to include critical collection routes (see Fig. 1). Any street attributes affected by these additions then needed to be carefully modified, again by hand.

In order to maintain these time-consuming manual updates, Recology was often obliged to operate off of outdated maps, despite receiving regular data updates from NAVTEQ.

Says Kevin Hitchcock, a Recology mapping technician, *"We get quarterly map updates from our vendor but we were afraid to use them because we had put so much polish on the previous map. In San Francisco we hadn't updated our map in three years because we had so many manual edits."*

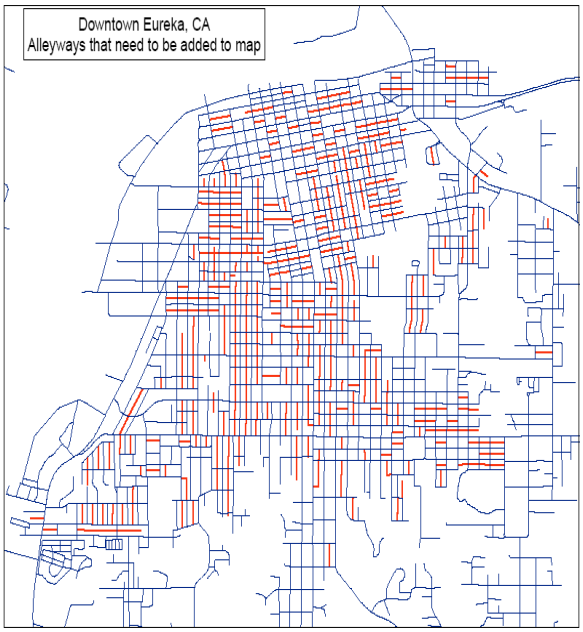

Figure 1: Red indicates alleyways that need to be added to the blue NAVTEQ basemap.

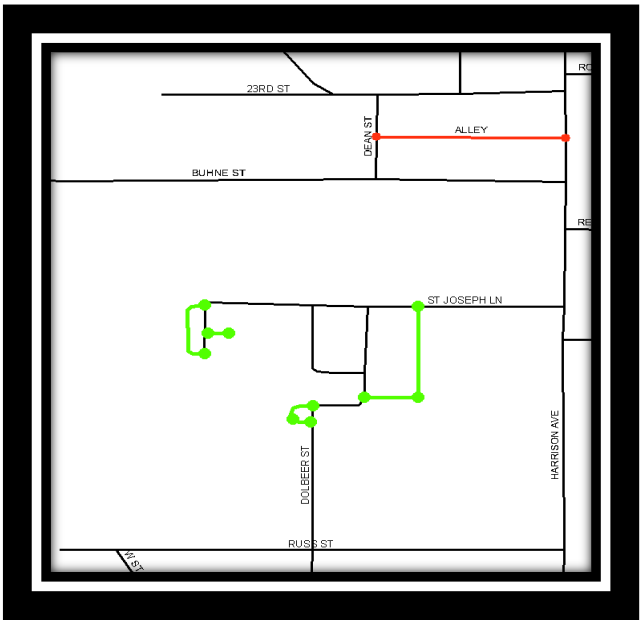

Figure 2: Green indicates NAVTEQ street update. Red indicates manual addition from previous basemap.

The Solution:

Recology needed a way to efficiently update its street data without losing the vital manual revisions that had been made to its previous map. To meet this challenge, the company purchased ESEA's MapMerger, an ArcMap extension that allows Recology to fuse their manually edited data with previously-unused quarterly map updates (See Fig. 2). For features that appear in both Recology's base map and the NAVTEQ update but have differing attribute values, the software enables Recology's GIS professionals to select which attributes they would like to retain from the base map, and

which attributes they would like to import from the NAVTEQ data. MapMerger also automatically recalculates left and right address ranges for streets on the basemap that are intersected by new NAVTEQ streets.

"MapMerger will split all the streets for us, and set our attributes for us – it just eliminates all this manual work that, generally, would take us days if not weeks to accomplish," says Mr. Hitchcock.

In the instance of Eureka, California, MapMerger also eliminated the enormously time consuming process of manually adding alleyways and service roads: Recology was able to find an alley-only map of the city, and using ESEA's software, quickly and easily merged the new data with their own (Fig.1).

In addition to using the software as a maintenance tool, Recology has begun to employ MapMerger as a means of merging data sets from various governmental sources with their basemap for increased detail and routing accuracy. The software can also be used to "stitch" two maps together to create a larger, comprehensive whole (See Fig. 3), as well as for merging manually drawn alley segments in groups of 20 or more. MapMerger then assigns unique IDs to newly split segments.

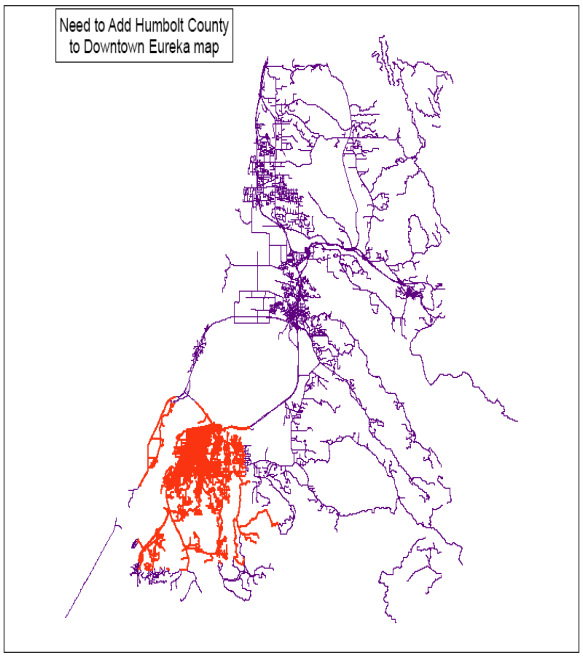

Figure 3: MapMerger stitches together downtown Eureka (in red) with Humbolt County (in blue).

Ultimately, MapMerger allows Recology to greatly eliminate the need for manual labor, increasing the company's efficiency and allowing its mapping technicians to create highly-accurate, all-inclusive data sets.

The Results:

"*Anytime you can automate one of the tasks, it cuts down on errors by taking out some of the human element, and it cuts down time for us. MapMerger has saved us a lot of time, and therefore a lot of money.*" -- *Kevin Hitchcock*

MapMerger's conflation technology provides Recology with a reliable means of keeping its GIS data current and accurate without excessive manual effort. As a result, Recology is able to compute travel paths for its drivers with the greatest possible precision and efficiency. Figure 4 shows a route (displayed in green) made possible by MapMerger alleyway additions which previously would have been inputted manually.

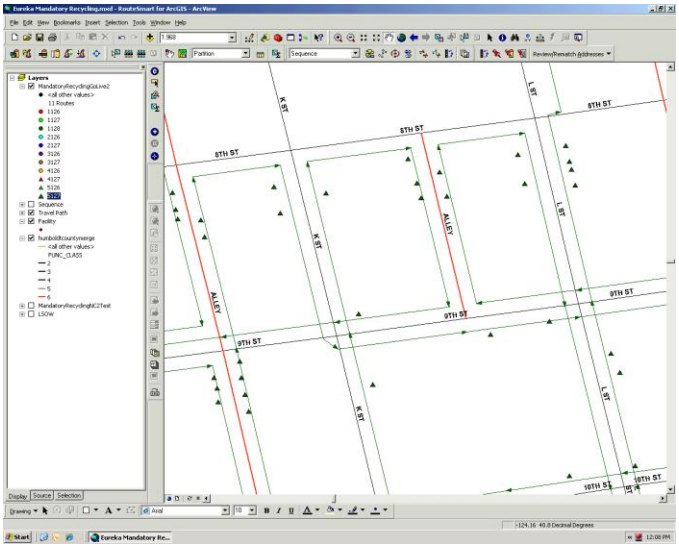

Figure 4: A Recology route (in green) made possible by MapMerger alleyway additions.

"MapMerger… has saved us about 40 hours of labor in this one month project," says Amy Ma. "And [ESEA's] Customer service has been excellent and very responsive."

By facilitating and expediting the conflation process, MapMerger allows Recology to make full use of its NAVTEQ data, and to economize and streamline its routing process. MapMerger's automation of the conflation process provides Recology with the ability to operate at the highest level of excellence.