

## A National Community Giving Campaign with GIS in less than 60 Days



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### **Abstract**

George Martin, on a *Journey for 9-11*, planned to walk over 3,200 miles in an effort to raise awareness and millions of dollars for the healthcare costs of rescue and recovery workers suffering from their heroic acts at Ground Zero in Manhattan. The GIS project included resources from Fairleigh Dickinson University and ESRI in developing a plan, creating a route, and displaying an interactive online map through ArcWeb Services. Planning a community outreach program incorporates identification of feasible resources, strengths and weaknesses of those resources, and allocating those resources within a timely and effective manner. This presentation will show how GIS cultivates resources in a national fundraising effort and the lessons learned while building and implementing the project.

### **Problem Statement**

Rescue and Recovery Workers from the terror attacks of September 11, 2001 are now suffering ill health effects; many are without healthcare. We need to promote awareness and financial support for the surviving workers from Ground Zero. George Martin, New York Football Giants Super Bowl XXI star, is compelled to help those who risked their lives that day.

### **Step 1: Decision to walk for awareness and financial support**

The idea to walk across the country elicits attention throughout the nation. George walked across the United States, visible to people from many geographic regions. George's sponsors, co-workers, and colleagues supported his mission by walking alongside him, making and soliciting donations, and publicizing *a Journey for 9-11*.

George Martin, an alumni and former Board of Trustees member of Fairleigh Dickinson University began his daily workout and discussed his concerns and ideas with colleagues. George and his colleagues formed *a Journey for 9/11*, a 501(c) (3) not-for-profit public charity organization, and began the process of planning for his journey. George's wife, Dianne, realized that this idea was turning into a reality and began the event planning. George received a paid leave of absence from his employer, AXA Financial to move forward on his journey plans.

The *Journey* teams formed, including the Board of Directors and Advisory Board, a remote home team, and the remote field team. The home team consisted of Fairleigh Dickinson University Petrocelli College of Continuing Studies and the *Journey* Board of Directors. Dean

Kenneth T. Vehrkens (who sits on the Board); Executive Associate Dean Ronald E. Calissi; Senior Program Director Joan Leder (who authored this paper); Director of Web, Instructional Technology and Online Learning Joseph Thomas; and the staff of Graduate Assistants in the School of Administrative Science worked with *Journey* administrators to identify goals and objectives for planning this project. *Journey* Advisory Board, Chief Technology Advisor, Lee Reeves and Event Planner, Dianne Martin consulted with sponsors and other members of the remote home team for technology and web-based interfaces for the public and all sponsors to view.

S&L Services donated online GPS tracking and historical reference points of the *Journey*, while Tom Patterson of ESRI remained active in GIS data development and management sponsorship for both the datasets and the hosting of an interactive online map. Jay Winuk, who lost his brother on September 11, 2001, donated his time and efforts for media coverage and planning events for the *Journey*. In addition to Jay, NASCAR's Board Member Andrew Giangola, solicited additional resources and produced media events across the country, such as the Lowes Motor Speedway track walk and an appearance at Phoenix International Raceway to promote a decal for a *Journey* for 9.11 on driver Michael Waltrip's Best Western Toyota. (See Acknowledgements for remote team members in the final Appendix of this paper.)

In his email, Lee Reeves expressed his goals for the use of mapping technology:<sup>1</sup>

**Link to GPS Tracking:** <http://www.slgps.com/journey911.htm>

**VISION:**

To use mapping technology for dual purposes – internally to plan daily activities and contingencies and track team progress *and* externally to generate increased public interest and traffic to the website; thereby, increasing (donations)

**OBJECTIVE:**

Internal Objective

Mapping technology will be used by both the Home Base Team and the Field Team (walkers). The Internal technology needs to include markers and contact information (where applicable) for items such as, *hotels; rest areas; vehicle parking; hospitals; police; milestones; daily stops and publicity junkets.*

- The *Home Base Team* will use S&L Services to monitor exact location and progress through their satellite tracking technology, eMail alerts and Mobile phone links. The Home Base Team will check in with local authorities the day before a scheduled walk, giving notification of timetables, vehicle description including license plates and names and descriptions of the Field Team.

If a check-in point is not made within a reasonable timeframe (TBD), the Home Base Team will attempt to make contact with the Field Team. If the Field Team is non-responsive for a specified period of time, the Home Base Team will check in with local authorities.

- The *Field Team* will use both S&L Services and printed maps to chart each day's course and scout the route for terrain as well as any undocumented impediments prior to beginning the day's walk. Special attention will be paid to all markers in the route and a contingency plan will be reviewed in the event of an emergency.

## Step 2: A checklist of needs and resources

### July 23, 2007 - Decision to Walk

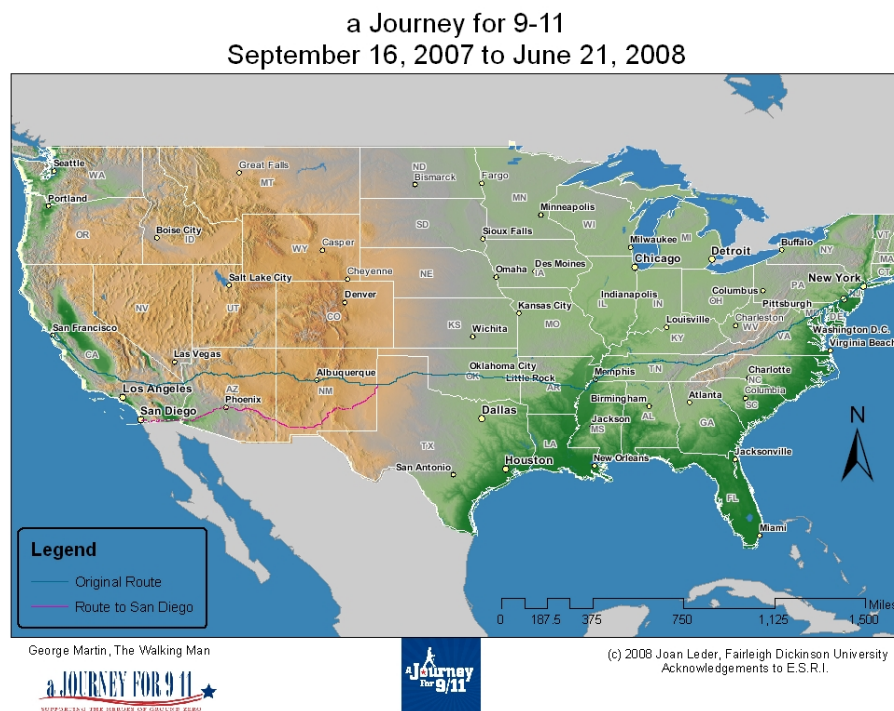
- Research and Plan – Begin *Journey* near the date of September 11, 2007
  - Identify Walking Route
  - Test NJ Route
  - Query Route
  - Adjust Route
- Implement the Plan to Walk
  - Permission Letters
  - Sponsor Notifications
  - National Fundraising
- National Phone Communication (Sprint Network)
- National Internet Service Provider
- Technology Needs
  - ArcGIS 9.2
    - Install Software
  - ArcWeb Services
    - Learn Software
    - Split Route by State
    - Refine data for Upload
  - Web Hosting Servers
    - *Journey* Site (Security, Speed)
    - FDU (Host Script to serve map)
    - ESRI (Serve map data)
    - *Journey* Blog (Entry approvals)
    - S&L (Host GPS tracking site)

### September 16, 2007 – Begin a *Journey for 9-11* at George Washington Bridge, NYC

George Washington Bridge, Water Stations, Hackensack University Medical Center, Giants Stadium in Rutherford, Bears Stadium in Newark

#### ◆ Where will George begin and where will he end his journey?

George began in New York City at the George Washington Bridge. The approximate three-thousand mile journey was completed in California, originally to extend to the Golden Gate Bridge in California. As time and consequences would prevail, the *Journey* would conclude in San Diego, California, a few hundred miles short of the San Francisco route. Bridging the gap from one side of the country to the other, his journey brought together support and gratitude to everyone who was touched by the events of September 11, 2001.



◆ **Who will help determine the route that George will take on this Journey?**

George relied on resources from Fairleigh Dickinson University (FDU), including contacts at ESRI and administrative resources, along with sponsors like World Wrestling Entertainment (WWE), NASCAR, the National Football League (NFL) Players Association and the NY Football Giants to help plan the stops along his walk. These stops included media events to increase awareness of George's mission. A team of local and national sponsors and supporters such as Valley National Bank, Hackensack University Medical Center, AXA Financial, WWE, and other dignitaries accompanied George's first *Journey* steps across the George Washington Bridge from New York to New Jersey. This team followed George to the hospital in Hackensack, and then on to Giants Stadium in Rutherford. The NFL Players Association filmed George and his volunteers on the playing field during half time of the season opening game on September 16, 2007.

◆ **What resources will George need to plan and implement his journey?**

- Home Team
- Field Team
- PR Team
- National Communication Network – ISP, Phone services
- Map of available Walking Routes
  - Starting Point = GWB, NYC, NY
  - Ending Point = GGB, SF, CA (cross 14 cities)
  - Dataset > 300,000,000 streets, 90 Gigs
  - Walking > 3,200 miles
    - Turns > 1,500

George needed food, lodging, water, and security along his journey. He needed a support team at home and one on the road. Each team accepted the commitment to a project of this scope. Goals and objectives for each team and its members were identified along with a level of responsibility and supporting members' contact information.

*A Journey for 9-11* established a web site where supporters could follow George's route through a GPS tracking device, view his projected travel route, and donate to his mission. The web site was required to comply with national fundraising regulations, be robust enough to support the Internet traffic, and be secure enough to maintain confidential credit card information for the online shopping and giving campaign.

Once George's route was identified, it had to be tested for traffic and road conditions before he took his steps each day. Safety was always the first consideration for George's walk. Each local law enforcement agency was informed of George's intention to walk through each town. Joan Leder (author of this paper), Joseph Thomas, and Ken Vehrken of Fairleigh Dickinson University (FDU) met with Lee Reeves and Dianne Martin, *Journey* team administrators, to plan the first 250 to 300 miles of George's *Journey*. Several phone and in-person planning meetings took place through resources from Fairleigh Dickinson University and the *Journey* Board of Directors. With safety as the first concern, *Journey* teams researched for donated vehicles, medical supplies, and personnel.

Tom Patterson, ESRI Wildland Fire Specialist, used the ArcGIS Network Analyst to build George's initial route with over 1,500 turns and more than 3,200 miles using a database over 90 gigabytes. Tom provided a 90MB download through the ESRI public FTP site, of turn-by-turn directions in both text and images. ESRI granted permission for FDU to use the ArcWeb Services public license on August 6, 2007. The FDU support team uploaded George's projected travel route to ArcWeb Services and Joseph rewrote the script hosted at FDU to serve the data from the ESRI site. With assistance from Tom Patterson, the ESRI ArcWeb Services team supported the projected travel route through George's journey. Sponsors used the interactive map for planning media events.

Once the initial route was established, the GIS support team queried the datasets for place names, zip codes, and geographic names that intercepted the route. Selected by location, additional resources such as hospitals, fire departments, parks, and schools along the route were identified. The team researched names of local police chiefs and county sheriffs in the towns and 118 counties along George's original route. FDU drafted a letter requesting permission for George to use the designated roads within each town or county. After obtaining George's signature and the *Journey* letterhead, FDU mailed the letter to the appropriate law enforcement agencies.

The support team at FDU participated in a conference call with S&L Services discussing their GPS tracking device. S&L is a tracking company that provided the transmitting GPS unit. Unlike a common traveler's GPS unit, the S&L unit could not receive any data but could upload location information to their hosting server in Indiana. The GPS device required battery power, with an ON/OFF switch for recording and uploading data. Using a modified version of the Google Maps service to display the tracking from its transmitters, S&L provided real-time online tracking of the field team's four-wheel drive vehicle. In addition to real-time data, the S&L web site provided playback of historical data.

Lee Reeves requested that ESRI and S&L try to marry the projected with the real-time traveled route, but the two hosting platforms were not compatible. S&L could not cross-platform interface with GIS technology other than through their agreement with Google. Ultimately, the look and feel of the S&L website would change during George's journey.

Sponsor Nike provided George with a GPS tracking device embedded in his apparel. This remote tracking device recorded each of George's million steps. George would wear more than 25 pairs of walking shoes along his journey.

After testing the roads along the original route, changes were made, including the addition of media and sponsor events as part of the projected travel route. With only three days before kickoff, Tom and Joan (the *Journey* GIS team) worked at redesigning the ArcGIS shapefiles and getting them uploaded to the ArcWeb Services site. File size and format modifications were needed to meet ArcWeb specifications. Using ArcINFO software and the Network Analyst extension, matching feature requirements specified by ArcWeb Services for the fourth and final route was possible in a timely manner. The working windows in ArcWeb Services froze while using Microsoft Internet Explorer for file edits and uploads. Email correspondence went back and forth to the ESRI ArcWeb Services support team to record successes and failures regarding

this interface. Firefox was used to edit and view files of what was to become the interactive online map. ESRI ArcWeb Services specialist, Mark Reddick, assisted in bringing to life George's projected travel route in time for the Giants kickoff day.

Nine months into the *Journey*, the original route was modified. George would no longer walk to San Francisco, but would designate San Diego as the final destination. The detour route was established, built inside ArcGIS, merged with the original route, and then again uploaded onto ArcWeb Services. Successfully uploading the detour file required several attempts at matching file specifications. Finally, ArcWeb accepted all the features of the detour file, again with Mark's modifications.

◆ **How will George get from the starting point to the end of his journey?**

George walked between 20 and 30 miles per day. His projected travel route was uploaded as an Interactive online map where sponsors of media events and George's travel and home teams could access anticipated stops and route information.

A home support team assisted in planning and adjusting George's media and resting points. This support team produced daily maps for the *Journey* field team, illustrating weather, police and fire locations, in addition to the starting and ending points. A package of *Journey* maps was sent through email to members of the home and field teams.

A field team scouted each day's route to ensure its safety, escorting and meeting George at specific destinations along his route. Local and county police departments were notified of George's daily route for permission to use non-pedestrian roads to walk and to publicize his walk for media events. For safety reasons, George modified his steps according to weather, road, and other environmental conditions.

An emergency medical technician operated a donated four-wheel drive vehicle at slow speeds along the route. In addition to this vehicle, a Featherlite donated a mobile home to be outfitted as a command center with additional medical devices and supplies. The mobile home, with a donated shrink-wrap vinyl decal to illustrate the *Journey*, was parked within 50 to 100 miles of George. Through contacts at NASCAR, the team obtained Best Western sponsorship for daily lodging and Sunoco sponsorship for fuel costs. Sprint also provided wireless devices and communications services to George and his team

◆ **What are the strengths and weaknesses of his internal resources?**

Forming a national fundraising web site requires compliance with federal fundraising regulations. Donations and solicitations for them must meet federal guidelines. The original *Journey* web site had failed to meet these requirements and to support the high network load two days before George began the *Journey*. An alternate hosting location was designated where all files were moved. A web design company, SJI Associates would eventually redesign the *Journey* site to attract more donors and to be more user friendly.

The interactive ArcWeb Services site required use of ArcGIS 9.2 software extensions to build shapefiles that were uploaded. ArcWeb Services required an established account through ESRI and a support team to assist in learning how to use the system. Russ Johnson of ESRI donated

ArcWeb Services hosting. The hosting site was a testing site, but supported the small files needed to display the *Journey* route. Joseph Thomas and Joan Leder conversed with Tom Patterson and his ArcWeb team to build the script that FDU hosted to serve up the ArcWeb files. The *Journey* GIS team was located in New Jersey and California, separated by the terrain across the country. Working from Eastern to Pacific times gave the team additional workable hours for developing, manipulating and managing the route data. The GIS and GPS maps were never interfaced as one online viewing of both the projected and traveled routes. Few people in the home team, including the remote sponsors, were familiar with how the GIS functions, its capabilities, and its technical requirements.

A daily checklist was developed and followed for proper safety and tracking protocol. Each day, the checklist reminded the driver to turn on and off the GPS tracking device until it became a routine. Members of the home, field, sponsor, media and support teams put many enthusiastic hours into the success of the *Journey*. Everyone involved in this project employed additional support from surrounding resources. FDU named March 21, 2008 as an official fundraising day of a *Journey for 9-11*. Ken Vehrken, Dean of FDU Petrocelli College of Continuing Studies walked 20 miles in New Mexico with George on this day and raised \$15,000 in donations.

◆ **What opportunities and threats will George encounter from any external resources?**

Roads in New Jersey are in ill repair where heavy trucks and weather wear them down. Some roads that have designated bicycle lanes are not suitable for pedestrian traffic. Extreme weather reduced daily miles traveled. George adjusted the way he walked his route to accommodate fierce winds and burning sunshine. The reverse progression method allowed George to start from a point a few miles along his projected route beyond his previous day's stopping point. From there, George will walk back to the previous day's stopping point, covering the projected route but in a reverse fashion with the winds and sun at his back, rather than in his face.

Projecting to raise \$10 million changed to reflect the economic status across the country. Costs for completing the *Journey* would rise and additional sponsors such as Sunoco were added.

◆ **How long will it take George to walk his Journey?**

George was optimistic, hoping to complete his journey in December of 2007. After walking a few days along the congested streets in New Jersey and then reviewing a rough draft of his route broken down into 50-mile increments, George recognized the monumental scope of this project. By the time he walked Tennessee, George decided to alter the final destination of his walk from San Francisco to San Diego, California, diverting to Phoenix for a large-scale media event.

As George scheduled media events along his walk, his estimated date of arrival changed several times. Planned stops at schools in Philadelphia and Maryland brought additional days with recognition to the *Journey*. George met with the NFL Players Association in Washington DC and again in Phoenix. NASCAR plans included a large media event at Sprint Cup Series events in Concord, NC and Phoenix, AZ reaching more than 250,000 fans in attendance. George also traveled by air to Mexico for his son's wedding and to Phoenix for the Super Bowl, and then later to New Jersey to accept his Honorary PhD from Fairleigh Dickinson University.

George completed a *Journey for 9-11* in San Diego, California in June of 2008. Final projected destination date was June 21, 2008. This was eleven months, nearly one year, from when New York Football Giants Superbowl XXI star, George Martin, publicly verbalized his intended *Journey* mission to raise awareness and financial support for the Heroes of Ground Zero.

### **Step 3: What did we learn from this campaign?**

A national fundraising campaign requires planning and projecting for alternative methods and resources. Team members need resources to perform their duties, and be flexible to delegate responsibilities to others, inside or outside of the preformed teams. Each team should consider unforeseen circumstances when projecting a timeline, anticipating that dates for media events and arriving at destinations will change.

The route changed, and required time to make appropriate adjustments. Teams should plan for time to rebuild the route and to upload, being conscious of technology issues; envisioning alternative solutions. More than one resource should be used for managing the data. Maintain a trusted communication network and a standardized checklist.

The learning curve time element when implementing new or updated software packages should be recognized. Proper hardware and software should be in place. ArcGIS version 9.2 provides a way to customize the scale; but ArcGIS v. 9.1 cannot retrieve map documents created in ArcGIS v. 9.2. ArcWeb Services provides an online testing site, but is not built to permanently host an online service. Proper browser interface with ArcWeb Services is imperative.

Consider types and levels of sponsorship. Dollars collected will be matched by contributing healthcare providers in this mission. Promotional materials and sponsorships are important in maintaining national interest. The use of a blog and other electronic media venues provided real-time information sharing. Cable and broadcast television and radio programs bring attention to anticipated and completed milestones of the project. Letters of appreciation and press releases reward supporters of fundraising efforts.

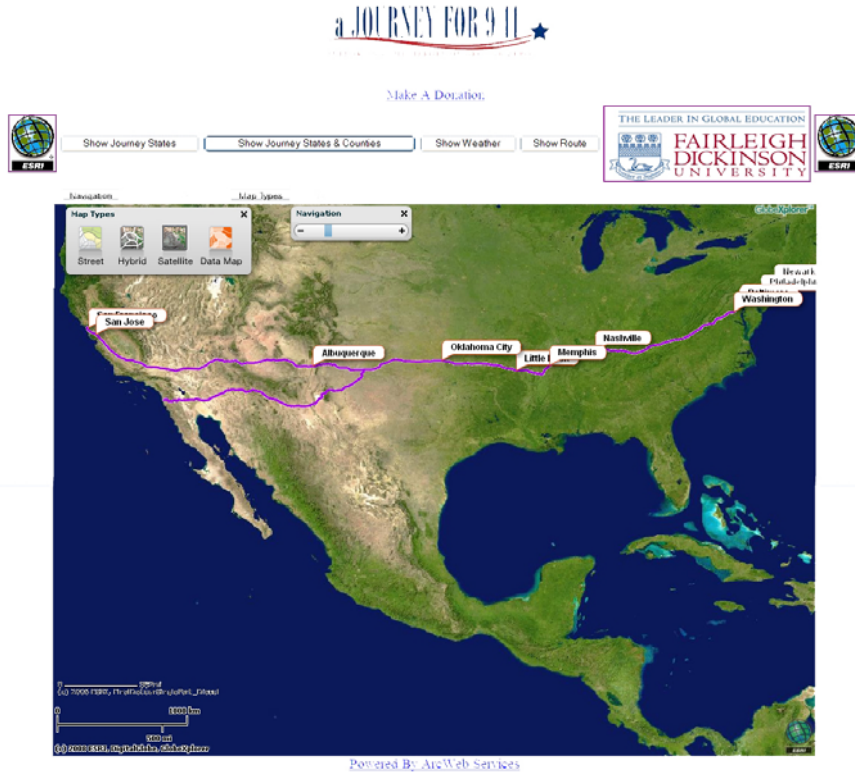
Placed at the Fairleigh Dickinson University web page <sup>2</sup> is the Projected Travel Route,<sup>3</sup> the *Journey* Blog,<sup>4</sup> and the *Journey* web site.<sup>5</sup> The Projected Route is hosted at a site that was scheduled to expire July 2008, as this is an ESRI donation to a *Journey for 9-11*.

Set aside time to remember those that the mission is serving. George visited many firehouses and police stations along and near his route. Illustrating one man's successful devotion to rescue and recovery workers who put others' lives before their own, this paper of *a Journey for 9-11* is dedicated to all who served their community through the terror attacks on September 11, 2001.



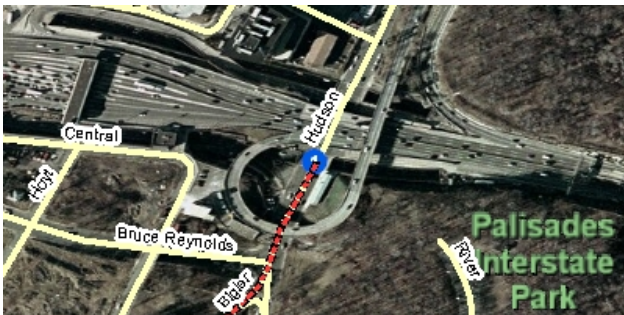
# Appendix A Images from *Journey*

Figure 1: ArcWeb Services hosting of Projected Travel Route



Courtesy of ESRI ArcWeb Services and Fairleigh Dickinson University

Figure 2: George begins his Journey  
Across the Hudson River September 16, 2007



2007, Courtesy of ESRI, Tom Patterson

Figure 3: September 16, 2007  
Volunteers at Giants Stadium



Courtesy *a Journey for 9-11*

Figure 4: March 21, 2008  
Colleague Ken Vehrkens with George Martin  
Official FDU Day for *a Journey for 9/11*



Courtesy of Fairleigh Dickinson University

Figure 5: April 12, 2008  
Michael Walthrip with George Martin at  
Phoenix International Raceway

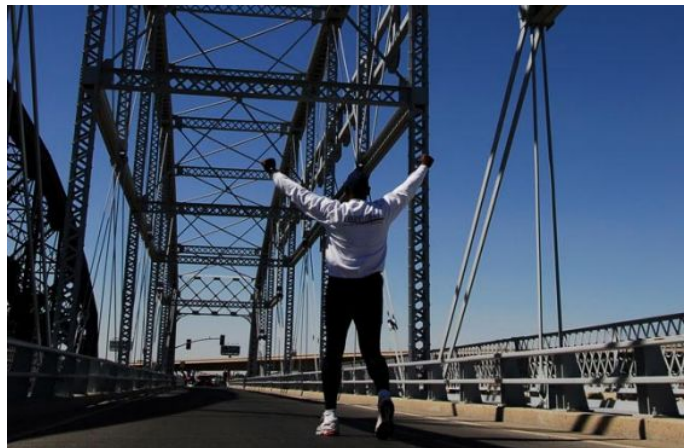


Courtesy of NASCAR

Figure 6: June 5, 2008  
George arrives in California



Ocean to Ocean Bridge, Yuma, Arizona to  
Quechan Indian Nation, California



Courtesy of Tom Patterson, ESRI

View media coverage<sup>6</sup> of George at Yuma,  
Arizona

## Appendix B Considerations in Planning

### First Day Fundraising

- Press Interviews Prior To Day 1
- Sponsor Coordination – GWB, Hackensack University Medical Center, Giant Stadium  
Volunteers – At Stadium Gates, Flag Unrolling At Half-time

### Initial Sponsors

AXA; Bear Stearns; Beau Dietl & Associates; Big Blue Travel; CV Technologies; ESRI;; Fairleigh Dickinson University; Hackensack University Medical Center; Hunter Douglas; Keyspan; Lou Hammond Associates; MAN Etc, Inc; NASCAR; NFL; NFL Players Association; NIKE; North Shore-Long Island Health Systems; NY Football Giants; PROforma Associates; S&L Services; SJI Associates; Sprint Mobile Network; Tanya Seybert Printing; UPS; Valley National Bank; WWE

### Home Team

- Human Resources – Event Planning
- Web master
- Map guidance
- GPS Tracking - Quality Assurance
- Communications
- Resource Management - Sponsors
- Updates and Assistance - Mitigation

### Field Team

- SUV (4-wheel drive)
  - EMT and Security
  - Communication and tracking devices
  - “Flagging” of George
- Mobile Medical Unit
  - First Aid
  - Oxygen units
  - Communication Device
- Resource Allocation

### Map Layers

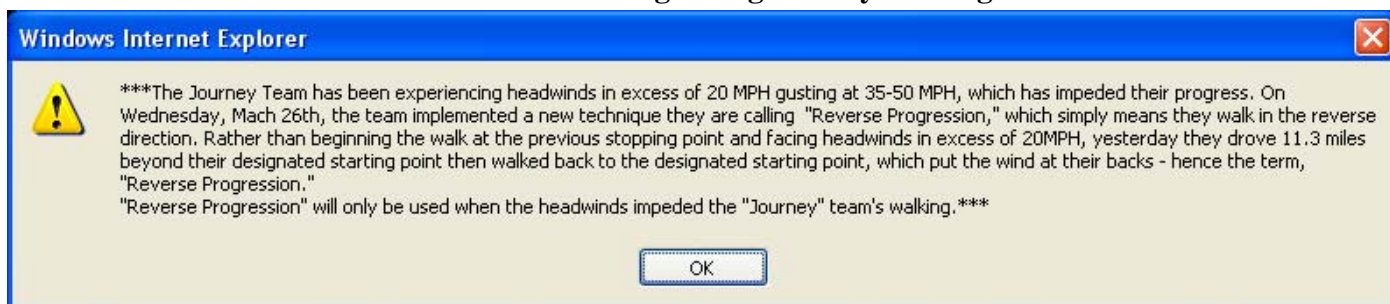
- Roads
- Parks and Schools
- NFL and NASCAR sites
- Lodging, Camp sites
- Police, Fire
- Fuel, Food, Shopping
- Elevation

### Public Relations Team

- Media Groups
- Technology Companies
- Sports Groups
- Healthcare Providers
- Educators

**Data Collection:** S&L purges GPS tracking data off the web site every 90 days; the *Journey* will last more than 90 days. Consider GPS digital imagery cameras. Recognize accuracy of methods.

### As seen on the S&L web site when tracking George’s daily walking route





## **Acknowledgements**

To those who contributed to the success in planning and implementing *a Journey for 9-11*, including sponsors, volunteers, and all who donated time, resources, and goodwill.



George Martin at Phoenix International Raceway  
Courtesy of NASCAR, the Raceway and their Fans

George Martin, *a Journey for 9-11*

Dianne Martin, *a Journey for 9-11*

Lee Reeves, *a Journey for 9-11*, Intelligent Designs

Jennifer Skor, *a Journey for 9-11*

Kenneth T Vehrkens, Fairleigh Dickinson University

Joseph Thomas, Fairleigh Dickinson University

ESRI Public Safety Division

Tom Patterson, ESRI

Russ Johnson, ESRI

ESRI ArcWeb Services Team

Mark Reddick, ESRI

Jay Winuk, Winuk Communications, LLC; myGoodDeed, Inc.

Andrew Giangola, NASCAR

Alison Hayes, Geographic Magic

Sean Leone, S&L Services

SJI Associates, Inc.

Andrea Juett, *a Journey for 9-11*

Brie O'Neal, initial Managing Director, *a Journey for 9-11* (contact for Rubenstein Associates)

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<sup>2</sup> “Fairleigh Dickinson University News and Events.” Retrieved June 11, 2008.  
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<sup>4</sup> *A Journey for 9-11 Blog*. <<http://ajourneyfor911.blogspot.com/>>

<sup>5</sup> *A Journey for 9-11 web site*. <<http://ajourneyfor911.info/>>.

<sup>6</sup> “Former NFL star in Yuma.” *YumaSun.com*. June 5, 2008. Retrieved on June 10, 2008.  
<<http://link.brightcove.com/services/link/bcpid1156002562/bclid1178176697/bctid1587942429>>.