March 25, 2016
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Mark Pierzchala's Rockville CityWalk

By Mark Pierzchala, Rockville City Councilmember

From June 2014 to April 2015 I walked 519 miles covering every City street, park, and public education campus in Rockville. I called this project Rockville CityWalk. The project was accomplished in three phases. The walking trips were well documented and I took over 31,500 photographic images.

Three Phases of Walking

Phase I, walking Rockville's streets, started in June 2014 and ended in November 2014. In that time I walked the length of every Rockville street in 101 trips, a distance of 366.27 miles covered in 169.3 hours. The average trip was 3.63 miles long at an average speed of 2.16 miles per hour. The walking included a few streets bordering Rockville. Many streets were walked twice or more because it is impossible to walk all street lengths without much doubling back.

Phase II walked parks and school campuses. It lasted from November 2014 through February 2015, adding 88 trips covering 76.86 miles in 55.20 hours. It included all 71 City park properties, 15 school campuses, and 2 other locations. The rate of speed for this phase was 1.39 miles per hour.

Phase III started in March 2015 and ended in early April. The residential parts of King Farm and College Gardens were re-walked and then I walked some streets just outside of Rockville. This phase covered an additional 75.95 miles in 15 trips in 40.65 hours. Thus the walking covered a 'Greater Rockville' area.

The three phases totaled 519 miles in 204 trips in 265.15 hours (1.96 mph). I lost 35 pounds. While weight loss was a purpose of the project, it quickly became a secondary consideration.

Walking Every City Street after Biking Every City Street

In 2009, I biked every City street in 18 trips over 48 hours. The estimated rate of speed was less than 8 miles per hour. However, in 2009, I recorded only that I biked every street. I did not record precise routes and so there is no way to determine the exact distance.

King Farm gives idea of comparative effort between biking every City street and walking them. In 2009 it took 4.6 hours in 2 trips to bike every King Farm Street. By contrast, in 2014, it took 12 walking trips in 19 hours, covering over 42 miles. The walking in 2014 did include walking on the borders of the King Farm neighborhood so this latter distance was about 10% longer.

The biking trip in 2009 occurred before I was elected to the Rockville City Council. The walking trip took place after I left the council in 2013. The biking trip was an excellent way to get to know the City and to see the diversity of neighborhoods and housing. The walking trip was made with much greater knowledge of Rockville and how the City works. I was able to see the results of Mayor and Council decisions I took part in such as paving City streets.

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Driving, Biking, and Walking City Streets

Every mode of transport gives its own view of Rockville. For traversing City streets, driving is about 3 times faster than biking which is about 4 times faster than walking. (This estimate assumes that driving averages 25 miles per hour, the biking 7.5 miles per hour, and walking 2 miles per hour.)

Driving has the advantage of speed and the fact that Rockville has evolved to accommodate the automobile. You can drive on I-270, for example, but you cannot bike or walk it. On the other hand, you really have to concentrate on your driving and it is difficult to observe and drive at the same time.

Biking has the advantage of slowing down the journey while still allowing it to be completed within a manageable amount of time. You can observe things you would not even notice from a car. On the other hand, there are a few City Streets that are difficult to bike, such as West Montgomery or state highway 355. I either biked them on early weekend mornings or I biked their sidewalks. Some of the City's bike paths go through parks and give the cyclist some routes that cars cannot access.

While walking, you see things you would not see even from a bike. You can more easily take a heretofore hidden path on the spur of the moment, and change your planned route to follow an interesting trail. You can also take pictures as you walk. You find that you constantly adapt your route as you follow interesting but unplanned detours.

Getting to and from the Destination

In 2009, I biked to the neighborhood I wanted to see, biked the neighborhood, then biked back home.

In 2014 and 2015 I usually biked to each neighborhood, walked the area, then biked back home. However, there were other ways to get to the day's walking area. To get to the southern part of Rockville, several times I walked from my Town Center office to Rockville Metro, took the train to Twinbrook, and walked from there. A few times I walked from Twinbrook Metro back to Town Center by various routes; other times I walked from and back to Twinbrook Metro and trained back to Rockville Center. My home in College Gardens and my office were sometimes used as staging areas, leaving from and returning to these locations on foot. A few times, I must admit, but no more than a few times, I was either dropped off by a family member or picked up, but I felt guilty on these occasions.

Walking Streets

A City street is a well-defined and visible place, is on a map, and usually it has sidewalks. While walking, you can record your route including direction and side of the street you walked. It is easy to tell when you have walked the street. A challenge is to walk a reasonably shortest distance to cover the day's goal, while as you go along, taking into account unplanned deviations. I had a street completion protocol that determined when I walked the complete street length. It took into account 3-way and 4-way intersections and whether the street crossed another street (among other things).

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Walking Park Properties and Public School Campuses

Park land and school campuses may have walking paths, but they do not have a walking grid per se. Thus, it is not possible to say that you completely covered a park or school property in the same sense way you can with a City street. What you can do is walk onto the public land, follow the paths that are there, and otherwise visit and observe all interesting features. You record your route as you go along and then re-record these routes once again into the City's GIS website.

Rockville's sterling park system covers at least 71 plots of land. You can't observe all parts of these parks from streets so you have to walk them to see all of them. Most of the City's natural environment is held in City's parks. If you want to explore the environment, you have to walk the parks. While I walked onto all the City's defined parks, they are not completely walked. I did walk all playground and gathering areas. There are some natural areas of the parks and streambeds I still have not walked. These tended to be well off the beaten path and are best done with a companion. At some point, I will manage to more completely walk the City's natural areas.

The public school properties, Montgomery County Public Schools as well as Montgomery College, are involved in several City issues including overcrowding and their impact on development. Schools form the hub of many neighborhoods and are where many social networks form. The school campuses take up considerable land. You can't see all parts of the school properties from the streets so you have to walk the campuses too. I also walked the campus of the Universities at Shady Grove just outside the City limits. This is a gem on Rockville's outskirts. We're lucky to have it so close at hand.

The City's Built Environment and the City's Natural Environment

For Rockville CityWalk, I focused on the City's built environment and natural environment, and importantly, on how they interact.

Built Environment

The built environment includes housing, roads, schools, parts of parks, cemeteries, storm water management facilities, transportation facilities, infrastructure such as gas pipelines and the electric grid, and water and sewer facilities. In short, anything put together by humankind.

Natural Environment

The natural environment includes woods and streams, their topography, and all their biology. If no human had ever set foot in this area, all of Rockville would be woods and streams. In such a well-watered temperate area, a totally natural environment would admit very few naturally open spaces. There would be a much larger diversity of species.

Documentation

The Rockville CityWalk project is thoroughly documented. Every evening, I would refer to my hand-drawn map and redraw the day's trip on the City's GIS website. I thereby recorded the route and obtained the distance in feet. I captured the GIS image with a software tool and placed the image on a

Power Point slide. I also documented the day's journey in spreadsheets. This allowed me to tally the miles and to determine walking speed as I was also recording the starting and ending times of each trip.

Route Maps annotated by Hand

With few exceptions, I took a specially prepared route map with me and marked the map as I walked. The route maps were usually from the City's Geographic Information System (GIS). Some route maps were used for 2 or more trips. Figure 1 shows a scanned image of a route map used on trips along Veirs Mill road on September 20 and 28, 2014. The double use of a map was handy when walking a neighborhood such as King Farm or Twinbrook where several trips were required. This reduced redundant walking while ensuring that I walked all the neighborhood's streets. I recorded the direction taken on each street, and even the side of the street that was walked.

Figure 1: An Example of a Hand-Annotated Rout Map for 2 Trips along Veirs Mill Road
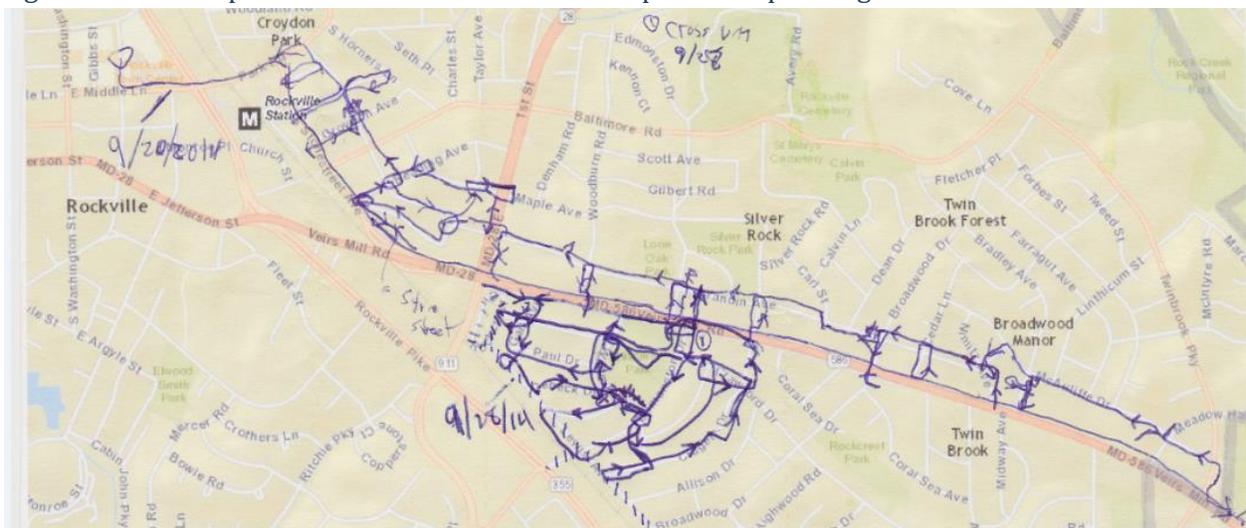
The hand drawing of September 20, 2014 in Figure 1 is rendered in Power Point as shown in Figure 2.

Routes recorded on Power Point

Every slide was annotated in such a way so that another person could trace the route. Figure 2 shows the use of image and text to describe the route.

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Figure 2: An Image and Text describe a Veirs Mill Route

Neighborhood: Town Center, East Rockville, Twinbrook

I started and ended at the oval in Town Center where I parked my bike.

Date: September 20, 2014; Start time: 11:54; Duration: 272 minutes; Distance: 8.93Miles, Rate: 1.93 mph.

East on E Middle to Park, south on South Stonestreet, east on Veirs Mill into the county, north on Twinbrook, west on McAuliffe, west on Grandin, looping south on several streets to, and at times, across Veirs Mill. South on First to Veirs Mill, back then cross First, then east on Mapleton, around south on S Stonestreet, east on Reading, east on Grandin, through alley park to Maple then east across First and back. West on Maple, west on Reading, west and north on Grandin, up and down Croydon, Highland, Reading Terrace, then on Grandin to Park then west to Town Center.
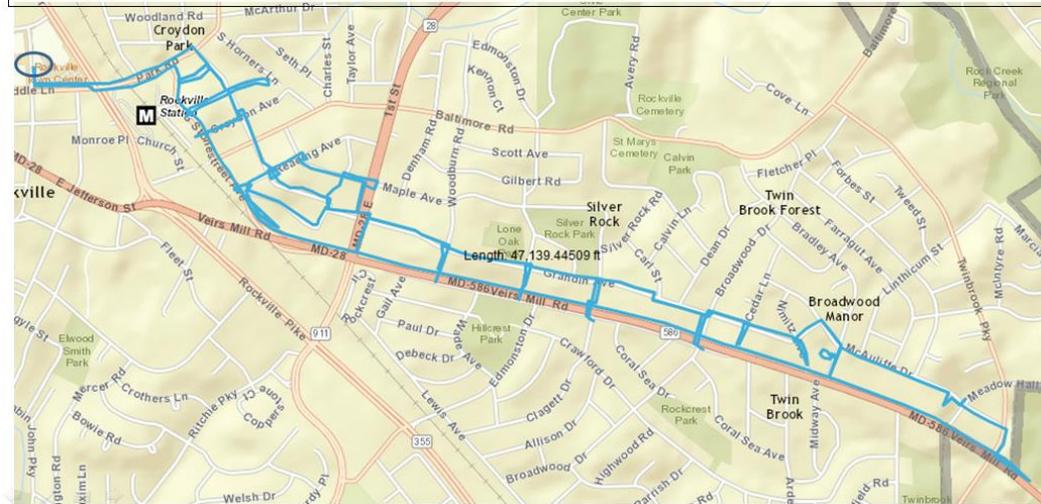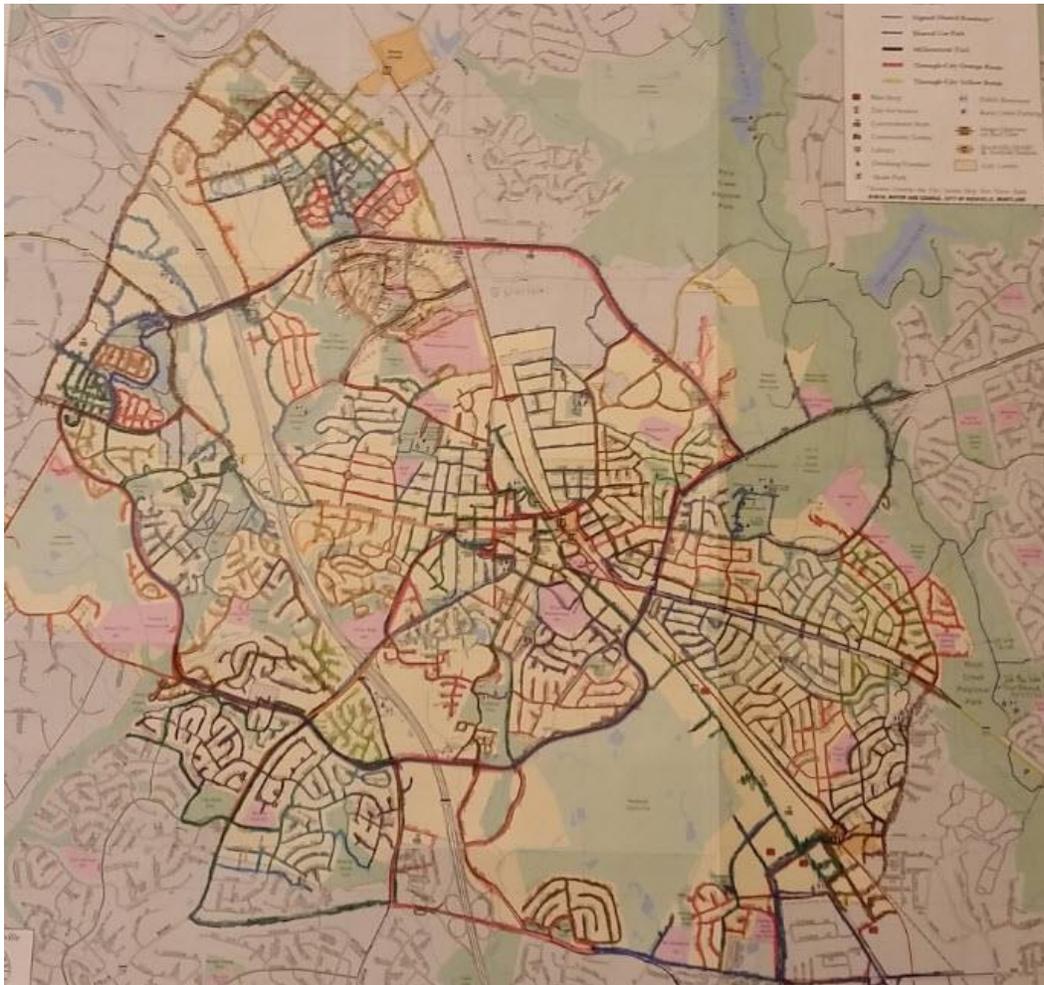

Master Map

Figure 3 below shows an image of a marked-up master bike map. As streets were walked, they were marked on the map. This was used for Phase I only.

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Figure 3: Image of a Hand-Marked Rockville City Bike Map showing Streets covered

Photography

I took over 31,500 photo images with my cell phone. One of the products of this CityWalk project is a photographic inventory of most of Rockville. I went to great lengths to avoid taking pictures of people with a handful of exceptions. The images are of the built and natural Rockville environments.

While many images are ordinary, there are some striking images. Taking photos was not part of the original CityWalk plan, but as time went on, I discovered that I could take many images easily. Many of these images are meant to be parts of a composite picture stitched together in an image-processing software system. I did this because the cell camera did not have a wide-angle capacity. If all such partial images were combined (by someone with a lot of time) there would probably be 10,000 or so pictures.

I took images as I walked and had time. Some images were unavoidably taken on overcast days, towards dusk, with the sun back lighting the scene, and so forth. For the most part the cell phone camera did a good job of handling difficult situations.

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Photos were automatically uploaded into DropBox whenever I entered my home or office. After they were all uploaded, I put them into an appropriate folder in DropBox and deleted them from the phone.

Items of Interest

I took pictures of anything that interested me at the time and this could include a mailbox, a smart car, traffic, portable classrooms, housing, and stream beds. As time went on, I learned the features of the phone's camera.

Camera

Almost all images (> 99%) were taken with a Samsung Galaxy S5 cell phone running the Android operating system. There were many advantages to using the phone as a camera. For one, while there was nothing secret about this project, it allowed me to walk and take photos without gathering a lot of attention. The phone would be in its holster or in a pocket until I needed it. The point and shoot capability of such a phone is superb; it's very easy to take most pictures this way. The camera could hold well over 1,000 high quality images and I never maxed out its capacity. As time went on, I learned the features of the phone's camera. The phone was purchased in May 2014 and when I started using it for this project in June, I did not know even how to zoom the picture.

Contrasting Google's Photo Project and the Rockville CityWalk

A few people have mentioned that my project was a redundant and slower way of accomplishing the same thing that Google is doing with its funny cars. These vehicles drive up and down streets taking thousands of pictures along their path there is a rotating mast sticking from the roof of the car.

While there would be considerable overlap, these are not the same project. My pictures are taken with a personal point of view, each explicitly capturing something interesting. That might be a row of houses, it might be a cute mailbox, or it might be a child's construction project. I would say that the Rockville CityWalk and the Google Photo Project are complimentary, not competing. Either, by itself, gives a photographic record of Rockville at a point in time.