Community Map Making Handbook

October 2010

feet first

PROMOTING WALKABLE COMMUNITIES

Table of Contents

Introduction 2

Making the Map: A Step-by-Step Process 3

Step 1: Getting Organized 3
Step 2: Inventory and Data Collecting– What do you have? 4
Step 3: Putting it all together- What are the options? 8
Step 4: Developing the Map and Trail Network 9
Step 5: Getting the Word Out and Celebrating Your Success 11

"I am writing to say thanks for the new Feet First NE Seattle Trails map. For an avid walker (and cyclist, bus rider and occasional driver) it is a truly wonderful resource.

A few years ago, shortly after I moved to the Pinehurst neighborhood, I had the pleasure of joining a Thornton Creek Alliance walk from Northgate to Lake Washington. This was my first long walk in the neighborhood. Not only does the map detail out this walk, but also many others that I didn't know about. I look forward to continue to explore my neighborhood using this great map. I particularly like how some of these walks are detailed out, and you also have the convenient estimated walking time chart. The legend for the map is very thorough showing lots of great details and useful information. The parks chart is also a great resource for the NE parks in our 'hood."

Many thanks!
David McLean, Pinehurst Neighborhood Resident

Introduction

Why did we create this handbook?

Walkable neighborhoods need good networks of trails and paths that connect destinations. Creating a neighborhood map and trail network can be a powerful tool to help shape a vision for the area, build community, increase physical activity, catalyze improvements to the pedestrian environment, reduce carbon footprints, and encourage sustainable practices. Maps created by community members for community members capture local destinations, shortcuts, and secret places so others may be encouraged to take the step and travel the area by foot. Thus the results yield not only a published map but also an energized community. Building on experiences in Seattle neighborhoods, this handbook outlines the steps you need to create a unique map for your community.

Who is this handbook for?

This handbook is designed for community members, neighborhood councils, government agency staff, sustainable and environmental groups, and trail advocates who want to create a neighborhood map, encourage physical activity, and build community.

How much time does it take?

The time it takes from taking the first step to distributing the final map is anywhere between six months to over a year.

What is a neighborhood map and trail network?

A neighborhood map highlights destinations and assets in a community. It is done with the pedestrian viewpoint and can include all forms of alternative transportation (bike routes, bus routes, trails). The map also identifies a community-created trail network of recommended walking routes. During the course of creating a functional neighborhood map, community members explore the area, discuss the history and future of the neighborhood, learn about secret places, discuss various roles and values, and create relationships that can empower the community in the future.

There are many types of maps that can be created and many software tools that can be used to create a map. These include ones designed for on-line use and printed forms. This handbook focuses on creating a printed map. Some of the principles for community collaboration are applicable regardless of which technology is used.

"I love my new (Northeast Seattle Trails) map! It is a terrific example of creativity, hard work and cooperation between many agencies and people."

- Joan Burton, author of Urban Walks: 23 Walks Through Seattle's Parks and Neighborhoods and Best Hikes with Kids in Western Washington.

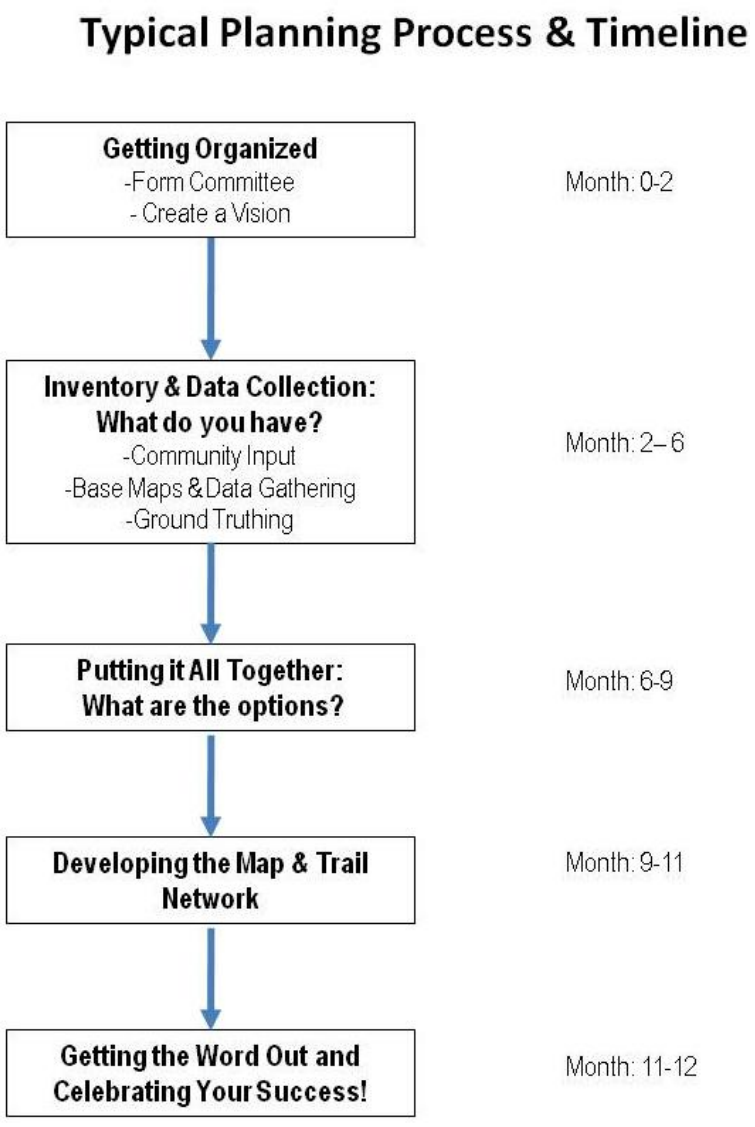
Creating the Map and Trail Network: A Step-by-Step Guide

The following is a step-by step guide on how to create a pedestrian neighborhood map. These steps are often done iteratively or in tandem and are meant to be used as a general guide or check-list. Don't worry, if you find yourself working on multiple steps at the same time, revisiting an earlier piece, or adding a new step altogether. This is the nature and fun of planning!

Step 1: Getting Organized

To get started on the map project, you first need to gather people and define your vision.

Form an Advisory/Steering/Working Committee: Gather a group of diverse stakeholders including residents, neighborhood council representatives, business leaders, environmental groups, sustainability groups, government agency representatives, and trail and pedestrian advocates. The role of an advisory/steering committee is to guide the planning process and represent the community and its varied interests during that process. Group members may participate in planning and decision making, outreach and advocacy, field work, and writing assignments. The group should be inclusive and strive to have a variety of ages, interests, and ethnicities.



Create your Vision, Goals, and Scope: Creating a common vision, goals, and desired scope of the project can help energize, focus, and guide your working group as you move through the planning process. One of the first meetings of the planning group should focus on identifying what the group collectively wants to create and work on together including which spatial area to map. Your vision and goals articulate your shared dream for the future, while at the same time recognizing the limits of your group's resources. Creating a collective vision can also help your group speak to and gain support from the larger community. For more resources on creating visions and goals with a group, see the National Park Service's Community Tool Kit.

Step 2: Inventory & Data Gathering – What do you have now?

To plan for the future, you must first inventory your resources and gather input from the community.

Themes: To help focus the data gathering exercise, identify themes that are of interest to your community. What is unique about your neighborhood? What would you like to highlight on the map? While there are endless things that could be featured on a map, themes help you tap into the things that are most meaningful to the community. Themes will vary on a case-by-case basis depending on what the community feels is most important. In some cases this could be a watershed theme, history theme, wildlife viewing, parks, aerobic-fitness, business, etc.

Develop Base Maps: Base maps are used as the initial communication of what data exists for the map. They allow the community to locate holes in the data, draw additional data on the map, and gauge the scale of a printed map for readability. In order to collect the bulk of the data for a map, we have used Geographic Information Systems (GIS). GIS enables complex spatial data management, spatial data creation, accuracy of scale and proportion, and relatively easy reuse of data regardless of scale. The base maps made through GIS are designed to represent the data that is possessed and the data needs.

To begin the mapping process you will need either ESRI ArcMAP/ArcGIS or some other software which serves the same purpose. ESRI software is the most widely used software, however the overall cost may be prohibitive or beyond the reach of a community organization.

There are several free and lower cost products which provide much of the same capabilities as ArcMAP/ArcGIS. The free or lower cost versions are:

- fGIS is free and the simplest to use, but also has the least flexibility. With fGIS, you are responsible for making sure the data all has the same projection and scale.
- Quantum GIS looks pretty good now and integrates with GRASS to form a user friendly interface to GRASS functions. This could be quite promising for a free software pairing.
- GRASS is also free and by itself is a very extensive package but also has a very steep learning curve. Being open source, some of the modules are more fully developed than others.
- Tatuk Editor GIS is pretty good software for the price. Those who have used fGIS will recognize much in the Tatuk Editor, because fGIS is based on the Tatuk Software Development Kit for GIS objects that is also used to build the Editor. The Editor supports projections and some types of analysis. Notably, it has some topology tools. You will still need some kind of graphics software to lay the map out. A good poor man's GIS could be put together with the Tatuk Editor and the attendant software (Draw, Inkscape) and would cost about $350.
- Manifold is commercial GIS software that is meant to compete with ArcGIS at a much lower price point.

Most of these software products have some limitations (as does even ArcGIS) and need to be combined with other software, in order to properly lay out a map. Additionally, some of these products need extra software for raster analysis - interpreting the results for export. To use them still requires knowledge of geography and

Geographical Information Systems (GIS) principles. Some training is likely required for all of them. For Seattle-area projects, the University of Washington has a GIS lab with everything that ArcGIS offers, but it is open only to students, faculty, and staff. Having a UW student on a community mapping team for Seattle-area maps would provide access to the lab. Other locales may have schools with comparable open GIS laboratories.

After you decide on your software, the first thing you need to do is to gather the existing available GIS data. A good first place to start for areas in Washington State is the Washington State Geospatial Data Archive. Local city, county and state governments also have a wealth of GIS data available. Google Maps also have data available that might not be in a GIS file. To create a base map, load all the desired layers into a new Arcmap file. Because there will be many layers, ensure that they are ordered properly and that the symbols can be discerned from each other. Before advancing to the next stage of the process, you will want to set the final map's page size and scale. We have used 18"x15" and 21"x18, you can decide what size you would like to use for your area. The scale should be as large as possible to still show the full area. If possible set to a standard measurement that is easy to estimate from (1"= 500 ft [1:6000]; 1"=1000 ft [1:12,000]; or 1"=0.25 miles [1:15840]).

Community Data Gathering: In addition, to gathering existing data from GIS and Google Maps for your base map that was mentioned above, you will also want to reach out to the community and gather data from them. Community members intimately know the aspects of the area. They will be able to talk about beautiful trees, an amazing view, shortcut trails, or quirky neighborhood shop. This data allows the maps to be an expression of the neighborhood and be functional to many different users. A few of the many fun methods to engage your community are listed below.

Workshops: Interactive 'Draw on the Map' workshops are a great way to get people actively involved in planning for the trail network and map. You can create your own separate workshop, tag onto another community event, attend other group's meetings, or conduct in-home neighbor-to-neighbor meetings. You will want to try to engage a broad sector of the community to ensure all voices are heard. You will know you have heard from the majority of the community, when you have heard about all the areas in your boundary and are no longer learning new information.

This type of workshop involves having groups of community members look over your base map drawing in information that is missing and writing notes about destinations and walking routes. It allows a lot of information to be deposited in a way that is easy to transfer to GIS without any technological expertise. Break participants into groups of three or five. Each group should have their own copy of the map and pens. Ask each group to look at the map, think about their area, and go through a list of questions. Here are some examples of questions:

Types of Information to Consider

There are many types of data you may want to put on a neighborhood map. Here are some of the common things:

Bus Stops & Routes
Bike Routes
Business Areas or specific places: (Grocery Store, Fitness Facility, Hardware Store, Coffee Shop)
Community Center
Community Garden
Crosswalk
Fire & Police Station
Farmer's Market
Heritage Tree
Libraries
Parks
Park Facility (i.e. playground, picnic tables)
Restrooms/Water Fountains
Park and Ride
Public Art
Religious Site
Schools
Stoplight
Streams/Lakes/Water
Staircases
Trails
Viewpoint

Community Places and Destinations:

1) Where do you go in this area? Think of parks, stores, vistas, places to play, places to relax, places to socialize, etc.
2) What type of information would you want to see on this map?
3) If someone were visiting, what would you suggest they do in this area?
4) What areas do you avoid going to and why?
5) What areas do think need the most improvement? What type of improvement? This can include improving a commercial district, fixing up a park, building sidewalks, traffic calming, etc.

Pedestrian Routes and Trails

6) Where do you walk in the neighborhood?
7) What routes do you take to get to these destinations? Do you use transit in these trips?
8) Are there route you take just for the walk itself, not to get to a destination? What about these routes make them enjoyable?
9) What parts of your trip do you feel most comfortable? What parts of the environment do you think improves this?
10) What parts of your trip do you feel least comfortable? What parts of the environment do you think affects this?
11) When traveling, do you avoid any areas, or have great difficulty crossing some area? This could be bad traffic, a busy road without a crosswalk and light, missing or broken sidewalks, no access down a steep area, etc.
12) Are there destinations you would like to be able to walk to, but cannot now? Why?

It is important to have the group work together, discuss the questions and their answers, and note everyone's opinion and disagreements. This both allows understanding of the complicated layers of use in an area, and allows participants to hear other community member's views on the neighborhood. It is also important to ask the group to summarize their most significant findings. This helps you start seeing where the priority areas of opportunity and concern are. After the workshop, synthesize and digitize the information from the map to add to the base map. You can do this method reiteratively to continually build on previous input.

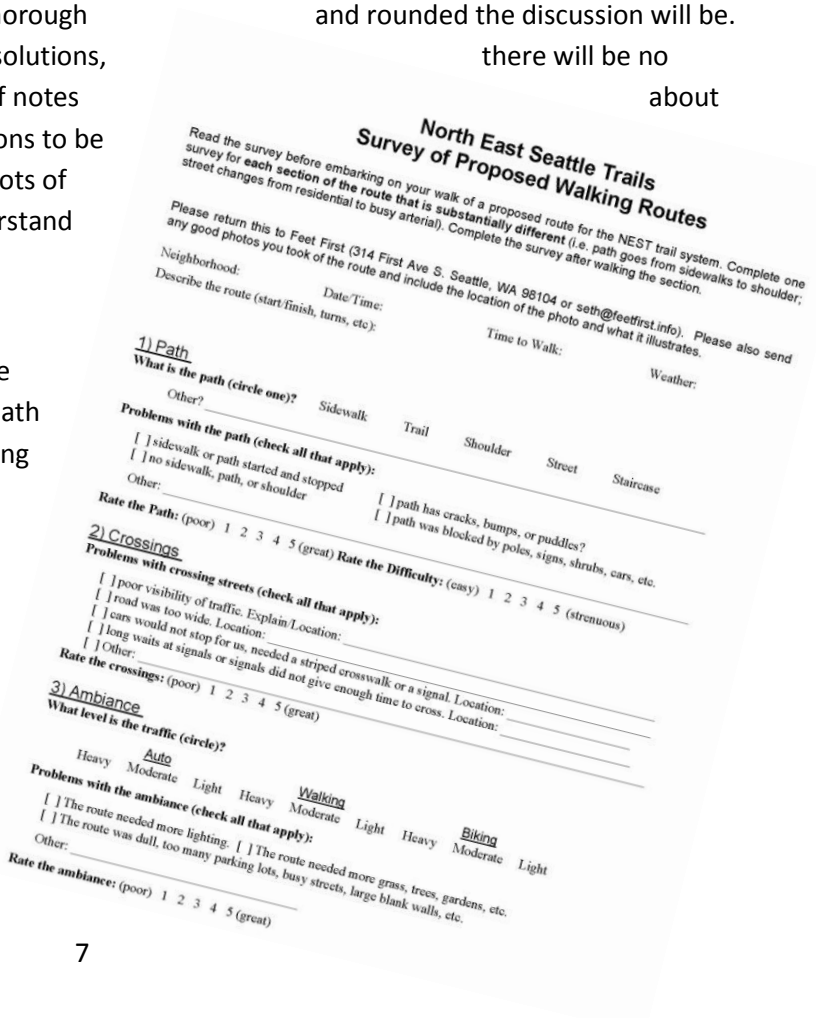
You can easily adapt this method to other settings. You can attach the list of instructions to the bottom of the map to have as a handout for individuals. Consider having this in multiple languages depending on the primary language(s) spoken by your community.

Surveys: A simple survey can quickly capture broad input. Not everyone will be able to attend a workshop, but more will be able to take a few minutes to fill out a survey at their convenience. You can design the survey to ask for input at the beginning of the process – asking questions about how often people walk, where they go, why people walk/don't walk or later in the process asking for input on specific routes.

Surveys can be done electronically (i.e. Survey Monkey) or by paper. Electronic surveys have the benefit of being easy to forward, though they get a more focused set of participants. Paper surveys can be handed out to anyone, though they have to be returned and compiled.

Neighborhood Walks*:* Sometimes you want to be in the field with community members so they can talk personally about what is around. Organizing a neighborhood walk brings together a group of community members to walk an area and discuss what makes the walk enjoyable or uncomfortable, point out problem areas along the way, discuss with each other safety issues and potential remedies, etc. The information you gather will be more detailed than during a map drawing exercise, though it will be more concentrated to a particular area.

This can be as easy as gathering a few neighbors together and walking a route, or as involved as holding a Feet First Walking Audit. In any case, there are three important things to do. First, have a diverse group of people present. The more diverse the group, the more thorough and rounded the discussion will be. If it is all people who agree on the problems and solutions, there will be no discussion or sharing of ideas. Second, take lots of notes about what was said. This allows the important discussions to be saved and shared for later reference. Third, take lots of pictures. Sometimes a visual is necessary to understand the issue.



North East Seattle Trails
Survey of Proposed Walking Routes

Read the survey before embarking on your walk of a proposed route for the NEST trail system. Complete one survey for **each section of the route that is substantially different** (i.e. path goes from sidewalks to shoulder; street changes from residential to busy arterial). Complete the survey after walking the section.

Please return this to Feet First (314 First Ave S. Seattle, WA 98104 or seth@feetfirst.info). Please also send any good photos you took of the route and include the location of the photo and what it illustrates.

Neighborhood: Date/Time: Time to Walk: Weather:

Describe the route (start/finish, turns, etc):

1) Path

What is the path (circle one)? Sidewalk Trail Shoulder Street Staircase Other?

Problems with the path (check all that apply):
[ ] sidewalk or path started and stopped
[ ] no sidewalk, path, or shoulder
[ ] path has cracks, bumps, or puddles?
[ ] path was blocked by poles, signs, shrubs, cars, etc.
Other:

Rate the Path: (poor) 1 2 3 4 5 (great) **Rate the Difficulty:** (easy) 1 2 3 4 5 (strenuous)

2) Crossings

Problems with crossing streets (check all that apply):
[ ] poor visibility of traffic. Explain/Location:
[ ] road was too wide. Location:
[ ] cars would not stop for us, needed a striped crosswalk or a signal. Location:
[ ] long waits at signals or signals did not give enough time to cross. Location:
[ ] Other:

Rate the crossings: (poor) 1 2 3 4 5 (great)

3) Ambiance

What level is the traffic (circle)?

Auto: Heavy Moderate Light
Walking: Heavy Moderate Light
Biking: Heavy Moderate Light

Problems with the ambiance (check all that apply):
[ ] The route needed more lighting.
[ ] The route was dull, too many parking lots, busy streets, large blank walls, etc.
[ ] The route needed more grass, trees, gardens, etc.
Other:

Rate the ambiance: (poor) 1 2 3 4 5 (great)

On-the-Ground Surveys. All the walking routes proposed by community members also need to be surveyed on-the-ground. Information about the path type, safety, route difficulty, and things to see along the way can be collected (see Appendix for an example data collection tool). It can also be helpful especially for routes that do not follow streets to use a Geographic Positioning Systems (GPS) when collecting data. Photo and video documentation can also be a useful way to allow the whole committee to see various routes, destinations, viewpoints, and problem areas. Often the map making process includes numerous versions of the maps and getting feedback from the

community. It is important to note that before any 'trails/walking routes' are printed on a map that is shared with the community, verify that all routes and trails are on public lands.

Ground Truthing: When you gather information from drawing on maps and remote sensing, you will want to guarantee that it is accurate. Ground truthing means physically going to the location and confirming a piece of data. Does a trail really exist, is a grocery store at this corner, does the park have soccer goals, etc. Though relatively simple and necessary for accuracy, it can be time consuming. Often ground truthing can either be combined with a neighborhood walk or done by volunteers as they explore the area for their own interest.

Step 3: Putting It All Together: What Are the Options?

So, now that you have all of this great data, it is time to analyze it all and come up with a trail network. If you have developed many different options for trail routes, your map could end up overwhelmed with lines and symbols. If this is the case, it may be helpful to come up with a range of alternatives that depict what the trail network could look like. All the community input and your on-the-ground surveys can help you put together a great network.

Some other things to consider when putting together a trail network are:

- Are key destinations connected (parks, businesses, natural/historical features, bus stops, existing trails, water access)?
- Have important themes been considered?
- Are different walking experiences considered (i.e. some people prefer walking on busier, well-lit streets, while others prefer trails and quiet low-traffic streets)
- Does the system include accessible routes?
- Are loop trails/routes incorporated?
- How long do the routes take? Is there a range of options?

Once you have developed one or more alternatives, it is time to go back to your community for more feedback. Reach out to the public and find out what they like and don't like about all the alternatives. You can visit/re-visit community groups and schools, table at festivals, hold workshops, and post the map at online and at libraries/community centers. It can also be helpful to have a small group re-walk the routes and recommend changes. You can use all this great feedback, to come up with a final draft trail network that your committee supports.

Step 4: Developing the Map and Trails System

Once you have a draft trail system that your committee is happy with, you can focus your efforts on creating the draft map!

The Map-Side: In creating a draft map, you will need to decide which of the features (businesses, parks, drinking fountains, restrooms, art work, view-points, etc.) you will include. It is a delicate balance between providing useful information and cluttering the map. Using graphic design tools like Adobe Illustrator allows more flexibility with map design (see the sidebar for how to export your GIS based map into Adobe Illustrator). Other software such as OpenOffice Draw or Inkscape (free and open source) can also be used.

The Other-side of the Map: On the back-side of printed map there is space for various types of community information – text and photos. This space could be used for information on community groups, trail information, neighborhood highlights, stories about the area, and information on local political issues. Just like the map-side, the back-side of the map is unique to the community it represents. Through the public process, it is important to brainstorm ideas for what the community would like to see on the map. The more the community actively partakes in making the map and content the greater the chance of success. Here are some things to consider:

- Cover
- Neighborhood Story on the History, Natural Resources, Community Activism, or Upcoming Project
- Neighborhood Contacts & Local Organizations
- What Is This Map?
- Walking Times
- Suggested Walks
- Why Walk/Health Benefits?
- Transit Information
- Park Resources
- Calendar of Community
- Priority Improvements Needed
- Logos and Acknowledgments

Adobe Map Export

Tools like Adobe Illustrator can help you make your map more legible and attractive. It is important to note that once you export, any adjustments to the data (location, adding new data, label, etc) will not be changed in our GIS library. Preferably, you will have all the data in GIS before the export. If you choose to use Adobe Illustrator for your map design, below are steps to follow.

Before you export, do the following steps:

1) Set the paper size to that of the final printed map plus 1" margin all around.
2) Set the scale to the desired scale for the final map. The scale should be as large as possible to still show the full area. If possible set to a standard measurement that is easy to estimate from (e.g. 1"= 500 ft [1:6000]; 1"=1000 ft [1:12,000]; or 1"=0.25 miles [1:15840]). You will want to document the scale for future reference.
3) Turn on all layers that you want to export.
4) Make sure the symbols for each label are easily discernable. It can be more difficult to select all of a layer in Illustrator. Avoid symbols that are derived from text or pictures.
5) Make sure no line symbols are dashed.
6) Turn off all layers you do not want to export.
7) Turn on all labels you will want.

Once you have completed these steps, export the map to Adobe Illustrator as a *.ai file.

If you export early and later need to add or create a new layer, you can always export individual layers. To do this, set the scale to the rest of the map, have on only the new layers you would like to add, and export the map into an *.ai file.

The way the map is folded provides a series of 'panels' to organize information. Several panels can be grouped together for larger sections. Different panels can have different color backgrounds to distinguish section divides. Our typical maps have either 12 or 18 panels; with each panel holding 75-100 words. Pictures, graphics, titles, and lists consume additional space. It is important to include ample pictures and graphics to break up the text and make the text side more enticing to read. Make sure all graphics and pictures are at 300+ dpi. We have done the layout of the text side in Adobe In Design; other desk-top publishing software could also be used. Before beginning, confirm that the page dimensions are accurate and that you are using the appropriate folding guides (check with your printer for this).

Community Engagement and Map Review Process:
Once the draft map and trail system are completed, the map should be presented to the community members – the committee and general public. This review is to check that the visual qualities of the map and the data are in line with their ideas of the map. Sometimes the community will want an early review to see the state of the map. It can help community members determine what additional types of information they need, if additional workshops or walks are needed, and how to frame the map making project to others. Several aspects to acquire review on are:

- Are the appropriate data layers present?
- Are school and park facilities appropriately noted?
- Are there additional points of interest to include?
- Are there any recommended changes to the trail system?
- Is line information legible?
- Are data points in the appropriate location and labeled properly?
- Are any types of information being left out?
- Should any information listed be taken off?
- Are objects that should be labeled getting labeled (i.e. some sites like commercial and religious sites are not labeled)?
- Are there areas of the map that are too crowded and maybe need call out boxes?
- Does the text side relate appropriately with the map?

There may be a need for multiple reviews of the map. But once the map makers have created a final draft you will want to receive public comments on the map. The public review is an opportunity for outreach to any and all people in the area. This is a chance for those who may not have heard about the map to make comments. This broadens the scope of opinions represented on the map and prevents a disgruntled community member from claiming a biased portrayal. Community members that feel like their opinion was asked for and listened to will feel more connected with the final map. Additionally, the review can catch needed edits or errors. Typical comments are a misspelled name, a new park facility being added somewhere, a symbol on the wrong side of a street, or new data to use. Occasionally reviewers will recommend a whole new layer to add or oppose some data being displayed.

The public review period should be at least one month long. Provide contact information where people can direct their comments and state the date to provide comments by. Because you want extensive awareness of the public draft, do a thorough outreach process such as:

- email announcement to all lists associated with your group, the neighborhood, or other interest based organizations
- contact geographically relevant blogs and news sources
- present the draft to any neighborhood organizations
- present the draft at any neighborhood events (festivals, farmers' market, etc)
- add announcement of public review to websites, facebook sites, etc.
- display copies of the map with 'comment boxes' at libraries, community centers, cafes, etc.
- encourage active community members to spread the news to their network

While all comments from the public review should be considered, not all comments need to be made. After the public review, the map is nearing the finish line. Following integration of the comments from the public review you will want your planning/steering committee and any other major participants (e.g. funders, public health, chamber of commerce, etc.) to look it over and provide their approval.

Printing the Map
With the final review finished, it is time to move forward with the printing process. Typical print runs for these types of maps are either 10,000 or 20,000 and cost between $2,500 and $4,500. Several weeks prior to the desired print time, you will want to contact the printer and schedule a print run with them. The printers will need the digital files in Illustrator and In Design formats, and sometimes will want PDF proofs for reference. Your contact with the printer will walk you through the process.

Funding Sources. There are many ways your group can raise funds for the map and pedestrian improvements. You could do your own fundraising in the community through asking for donations from individuals and businesses or hosting an event such as a sale or auction. There are also many grants you could look into such as the City of Seattle Department of Neighborhoods Matching Fund, Chamber of Commerce, or the Kodak Greenway Award (see appendix for a list of funding sources). Some groups decide to sell the maps to ensure funding for future printings.

Step 5: Getting the Word Out and Celebrating Your Success!

Congratulations, you now have a wonderful map that everyone can enjoy! You community will be energized to help distribute the map, organize walking groups, and hold celebration events. This is truly the fun part! Your committee will want to decide where to distribute the map. It is helpful to have one or more public places where people can go to pick up the maps. Places to consider for distribution include:

- Libraries
- Community Centers
- Coffee Shops/Local Businesses
- Doctors Offices
- Schools
- Senior Centers
- Farmer's markets, Festivals, Community Events
- Chamber of Commerce
- Offices for Neighborhood Services and Organizations

Hosting a neighborhood gathering and/or walking events can be a great way to celebrate the map, bring the community together, and encourage healthy choices! Be sure to thank all those who put their time, sweat equity, and funds to make this a reality.