

Walk Wise, Drive Smart:

A Senior Pedestrian Safety Program In Hendersonville, North Carolina

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Overview

This report describes *Walk Wise, Drive Smart*, a senior pedestrian safety program in Hendersonville, NC. Since September 2005, the UNC Highway Safety Research Center (HSRC), in cooperation with the University of North Carolina Prevention Research Center's (PRC) Healthy Aging Research Network (HAN) and community partners, has conducted a project, known as Walk Wise, Drive Smart, to improve pedestrian safety and walkability for older adults in the greater Hendersonville, North Carolina community. Funded by the National Highway Traffic Safety Administration (NHTSA) through a cooperative agreement, the project also has had support from the NC Governor's Highway Safety Program, as well as in-kind support from many state and local agencies and organizations, including NC Department of Transportation (NC DOT), NC Division on Aging and Adult Services, the Pedestrian and Bicycle Information Center, the Henderson County Partnership for Health, AARP-NC, and the Council on Aging for Henderson County. In addition, the City of Hendersonville provided funds, manpower and other concrete support to improve walking routes in selected neighborhoods.

Study Site

Hendersonville is located in Western North Carolina and currently has a population of slightly more than 12,000. Census figures from 2000 fix the population as predominately white (81.4%) with African-Americans the next largest group at 12.5%. At 27.4%, Hendersonville exceeds the national average of 19.3% for disability, while a remarkable 31.2% of the population is aged 65 or older. The community's percentage of high school graduates is just above the national average. Poverty rates for individuals are higher than the national average (16.8% as compared with 12.4%) (US Census Bureau, 2000). The *Walk Wise, Drive Smart* project has worked within 10 separate neighborhoods with a large proportion of older adult residents and falling within the city limits or the extraterritorial jurisdictions.

A pedestrian safety assessment confirms that Hendersonville is typical of many older communities with problems associated with accommodation to traffic and aging pedestrian infrastructure. As in many locales, busy collector routes have been widened from two-lane to five-lane with a center, two-way left turn lane. While this increases the efficiency of traffic, it also leads to crossing difficulties for pedestrians, especially older pedestrians. For example, US 25 Business

is a main route situated in the middle of the community. Even where there are traffic signals, crossing times may be inadequate for slower walkers. Crossings without pedestrian countdown signals may lead to some pedestrians being trapped while crossing. Elsewhere many sidewalks, curb cuts and other pedestrian features are in disrepair. Another problem is cut-through traffic in neighborhoods to avoid lengthy traffic signals. As a result of a walking audit in one neighborhood, Police and Public Works Departments instigated a review of options to decrease the cut-through traffic, including use of bollards to close streets. Neighborhood residents participated in multiple meetings, and the closing of certain streets has met with approval.

Responding to Need

Walking is the easiest and most accessible type of physical activity for most people. Unfortunately, many older adults walk infrequently or not at all, especially when they have special needs, such as frequent stops to rest and access to bathrooms. Older adults may also perceive that their neighborhoods or walking environments are unsafe or difficult to navigate. Indeed, the environment does pose risks. Older pedestrians suffer more falls than younger persons and have a greater chance of suffering serious or fatal injuries if struck by a motor vehicle when walking. Unsafe conditions, where they exist, are rarely monitored and thus account for unknown exercise non-adherence.

Attention has also focused specifically on the neighborhood environment relative to older adults and walking. This is very appropriate as the neighborhood to a greater or lesser extent offers opportunities for residents to be active and socially engaged. These opportunities are especially important to the health and well-being of older adults who may be less likely than younger people to venture far from home whether by preference or necessity. Access to opportunities in the neighborhood may become increasingly important as people age, develop functional limitations, and/or relinquish driving.

With growing cross-disciplinary dialogue, consensus is emerging as to ways to translate principles, such as those embodied in concepts such as smart growth and activity-friendly environments, into practice, especially in new development or in urban settings. The task becomes more difficult when applied to retrofitting existing areas or applying principles in less populated suburban or rural areas.

Project Goals

The overall goals of *Walk Wise, Drive Smart* were to:

- Create safer and more inviting neighborhood walking environments
- Use interviews and audits as catalysts for community action
- Evaluate a combination of education, encouragement, enforcement and environmental strategies to improve senior pedestrian safety and walkability

The process of addressing the goals led to many accomplishments. One of the most important is achieving a high degree of interdisciplinary collaboration in the conduct of the project, working with public health, urban planners, transportation professionals, developers, architects, and other relevant disciplines and parties. This was achieved through extensive individual personal contact, bringing people together in advisory group meetings, and common educational experiences. In addition, the project has successfully engaged community residents in assessing the safety of their neighborhoods through a process of interviews, neighborhood meetings and environmental audits in each of ten neighborhoods with a high proportion of older adults.

Engaging Partners

One of the earliest activities was to meet a variety of stakeholders interested in senior pedestrian safety. The project soon became part of the Henderson County Livable and Senior Friendly Community Initiative, and it builds upon a longstanding Healthy Aging Research Network — Prevention Research Centers (HAN-PRC) research partnership with the community of Hendersonville. Consistent with the precepts of participatory research, the project is conducted with the direction of the Henderson Healthy Aging Coalition, a community-campus partnership with over 70 members including older adults and representatives of the health, public health, and aging services sectors, as well as faith-based organizations, AARP, Cooperative Extension, planners, engineers, developers, and law enforcement personnel. A smaller local advisory committee is devoted to the project and includes representatives from the planning, engineering, development, commerce, aging, law enforcement, health and public health sectors, as well as interested older adults. There is also a state-level advisory committee focused on coordination and dissemination. These various partnerships have allowed for a significant degree of leveraging of support and resources from other sources.



Walk Wise, Drive Smart logo



Walk Wise, Drive Smart Web site



Pleasant walking on Main Street



Unsafe walking area

The local advisory committee was used to develop the project name, tag line, and logo. The formal name is “Walk Wise, Drive Smart: Stepping up to a More Walkable Hendersonville.” The logo was a walking apple to connect with the fact that Henderson County is known as “apple country.”

A web site, <http://www.walk-wise.org>, soon followed. A brochure was developed for broad distribution and contained a brief project description, a few tips for “wise walking” and “smart driving,” and logos of principal project partners.

Walk Wise, Drive Smart attempted to connect with existing initiatives where possible. This included the activities of the Livable and Senior Friendly Communities section of the Council on Aging for Henderson County. We also learned about the function of the Partnership for Health and its connection to Bi-Peds, a local group of volunteers who collected sidewalk inventory information for planning purposes. Two of the Walk Wise, Drive Smart staff served on the Pedestrian Master Plan steering committee. The connectivity-oriented Pedestrian Master Plan was endorsed by the city in 2007.

The intent was to ensure the visibility of all groups, stress collaboration, and evaluate the process as a catalyst for community action.

Targeting Neighborhoods

There is marked diversity in the safety and walkability of Hendersonville neighborhoods. Many years ago Hendersonville was ahead of the curve in altering the cross-section of their Main Street from a four-lane street with parallel parking on both sides to a two-lane street with serpentine for traffic calming and angle parking. The result was a very pleasant walking environment.

On the other hand, walking on other city streets and in neighborhoods can be quite daunting. Some have no sidewalks and residents have to walk on the streets. There are only a few pedestrian countdown signals in the community.

Staff first identified 10 neighborhoods that included a high proportion of older adults. Through neighborhood focus group meetings and interviews, residents provided input to popular walking routes and the walking conditions on those routes. Residents also filled out a shortened version of the Neighborhood Environmental Walking Survey (NEWS) to give their perception of the walking conditions in their neighborhoods (Saelens, et al., 2003). Staff then audited the popular routes and identified needed changes.

Other feedback from residents revealed that it was unclear who to call in the city about various problems, including garbage cans on sidewalks, vehicles parked on sidewalks, and overgrown shrubs. They also mentioned the lack of restrooms and benches, unfriendly or aggressive drivers, sidewalks not wide enough for wheelchairs or scooters, and cut-through traffic in neighborhoods. The discussions led to several requests from residents, including;

- Tell us who to call for problems
- Advise us how to have input into decision-making by the city
- Help us create one safe route per neighborhood (recognizing that resources for improvement are limited)

Audits

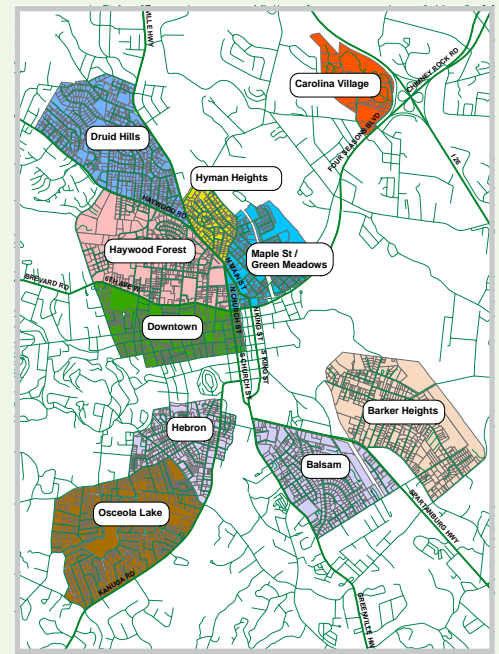
Initially the Healthy Aging Research Network Environmental Audit Tool and Protocol audit tool was used to examine the popular routes within the neighborhoods. This is a macro tool and focuses on land use, destinations, walkways, street characteristics, the aesthetic and social environment, and intersection traffic and facilities (Kealey, 2005).

After these assessments, it was clear that greater detail was needed to specify needed changes to improve safety and walkability. Accordingly, *Walk Wise, Drive Smart* staff developed a protocol for photographic audits. Staff would walk a route and photograph conditions that were problems for walkers and then develop an audit report that gave sidewalk- and street-level detail of all problems. The photo audits revealed numerous problems, including sidewalk discontinuities, poor curb cuts, and many places with no sidewalks.

All of these conditions were especially problematic for people with functional challenges. While most of the problems were amenable to city repair, some were dependent on homeowner education, such as keeping garbage cans off the sidewalk. The photo audits further served as a blueprint for route improvements and can be revisited to determine what improvements were actually made.

Action Plan

Meetings were held with the local advisory committee to set a course of action for the project, and eventually an action plan was developed. It was based on the concepts of education, enforcement, environment, and encouragement. The broad concepts were the following:



Map of Hendersonville neighborhoods



Unsafe driveway crossing



Participants at kickoff



Community leader at kickoff



Street banner



Safe Routes for Seniors educational walk

- Education — educate the professional and lay community about safety and walkability factors; broadly share information about pedestrian safety
- Enforcement support — discourage motorist actions that endanger pedestrians; monitor unsafe areas
- Environmental changes — make sidewalk and crosswalk improvements
- Encouragement — work with partners to increase walking in the community

Kickoff

Once the action plan had been developed, a formal kickoff was held on Saturday, May 13, 2006 at Jackson Park. The park includes several trails and is also less than a mile from downtown Hendersonville. The kickoff was a media event and included the city manager speaking on behalf of the city.

Attendees were given bright yellow t-shirts with the project name and logo, as well as white hats. Drawings were held for prizes. A series of group walks were held for people with different capabilities. The longest walk went from the park to Main Street and back.

A banner was produced that was used not only for kickoff but multiple times each year of the project.

Educational Activities

A variety of educational activities were held. The first was a Safe Routes for Seniors pilot course taught by members of the HSRC and its Pedestrian and Bicycle Information Center staff. The event was held at the public library and focused on the use of education, enforcement, environmental changes, and encouragement to improve senior pedestrian safety. After presentations, a walk from the library to Main Street and back was held to enable participants to identify environmental problems for walking on this route. These were discussed and prioritized.

A walkability audit in the Hyman Heights neighborhood led by David Levinger of Feet First was also very helpful in forging a coalition of local officials and older adults and providing all with a better understanding of walking problems. Participants spend several hours walking through the neighborhood and its connection to a busy street, US25 Business.

The findings from the audit were presented the next day in a community forum at the City Operations Center, and a good many town officials were in attendance. The event was notable in that several NCDOT staff participated, fostering increased collaboration between their office and city officials and resulting in modifications to a planned closed-loop signal system with pedestrian safety implications.

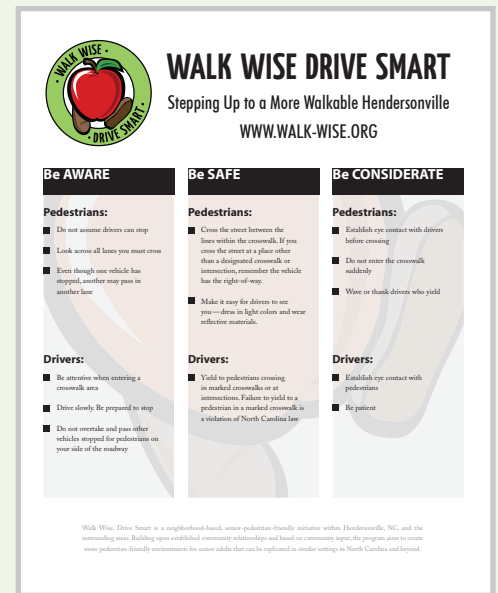
A safe walking and driving flier was developed and placed in a variety of locations around the community. These contained standard tips relating to the themes of “Be Aware,” “Be Safe,” and “Be Considerate” for both pedestrians and drivers. Posters containing a sample of project materials were also placed around the community.

Other activities were used to reinforce the Drive Smart aspect of the campaign. Bright yellow yard signs with the message “Slow Down! Neighbors Walking” were purchased and made available at no charge. These became so popular that a second round was purchased.

To encourage motorists to drive carefully and courteously around pedestrians, a scheme to employ incentives was developed. A postcard handout was created and given to motorists who stopped for pedestrians at mid-block crossings on Main Street. The postcards were mailed in to the Council on Aging, and winners were drawn and received prizes from local merchants. The first day of this activity was covered by the television station in nearby Asheville, NC.

Enforcement Activities

From the inception of the project, law enforcement officials were fully engaged. HSRC secured a letter of support from the City of Hendersonville chief of police and met with him very early in the launching of the project. Thoughts for the project were discussed and the chief became a member of the local advisory committee. The Police Department’s speed trailer was used in project neighborhoods and on streets where speeds were thought to be excessive for the pedestrian traffic. Special speed enforcement was periodically used in project neighborhoods. Similar activities were performed by the Sheriff’s Department, which has jurisdiction over county roads. Various members of their traffic services unit served on the local advisory committee. The Highway Patrol participated in the CarFit events.



Walk Wise, Drive Smart flier



Yard sign for neighborhood involvement



Enforcement personnel at kick off



Hazardous sidewalk discontinuity

Location	Photo	Problem	Risk-Walkability Level	Recommendation
Patton 1000 Patton North side Segment #		Grass over SW Who maintains strip?	MODERATE Tripping hazard for walkers	ASAP - Trim Neighborhood ED
Patton		SW discontinuity	HIGH Tripping hazard	Now- Flag with paint ASAP - Repair
1104 Patton		Garbage can in SW Obstacle for people in scooters or walkers or with visual impairments	MODERATE Obstacle	Neighborhood ED e.g., Parks for cars; Public Works employee ED
Patton		Question mark unrecognized TV house Issue - how to ensure good maintenance on Walk Wise route?	LOW Problem for people with visual impairment	Neighborhood ED; public works, reactor, neighborhood seat team
1112 Patton		Question mark	LOW	See above
Intersection of Patton & Highland		Paint fading on crosswalks No curb ramp Not accessible to people with mobility impairments	LOW HIGH	ESURE - Paint ASAP - Install ramp

Photographic audit form



Apple stencil



Pedestrian mid-block crossing sign

Environmental Changes

The concept of “one safe route per neighborhood” which had grown out of the neighborhood meetings was endorsed by the city manager and the director of public works. One of the most important contributors to the success of the project, the endorsement by the city officials underscored the willingness of local government officials to be responsive to constituent needs and to use resources to that end.

One of the first routes to be examined for improvement was in the neighborhood containing the senior center. A rectangular route of approximately 1.5 miles around the center was created. Initially some notes were made of problems on the route and their location. However, it was clear that more detail was needed for suitable repair. Thus, as mentioned earlier, *Walk Wise, Drive Smart* staff performed photographic audits of the neighborhood walking routes. A template was devised which contained the location of the problem, a photograph, description of the problem, a safety/walkability rating, and a recommendation for time to repair.

After completion of the first audit, it was discussed with the city manager and the director of public works. It was agreed that the improvements would be made as the local schedule allowed. Improvements included new sidewalk sections, repaving crosswalks,

repainting crosswalks, grinding down of sidewalk discontinuities, filling in holes or pits, filling in edge drop-offs, etc. Most of the repairs were to eliminate a tripping hazard. Problems that could not be fixed right away, such as a power pole in the sidewalk, were marked with orange paint to alert walkers. As of the preparation of this report, two routes have been completed and a third is underway. The apple stencil used on the walking route for Main Street in Hendersonville is placed at the beginning and end of each block on the improved route.

Additional environmental improvements include pedestrian mid-block crossing signs at several locations along Main Street and near the library parking lot.

Main Street has been upgraded by converting an additional block to the serpentine pattern of traffic calming.

One of the main problems identified in the walkability audit of the Hyman Heights neighborhood was the large amount of cut-through traffic. The chief of police and director of public works devised a plan to re-route traffic through the neighborhood. The plan was discussed at length at a public hearing

and changes were proposed and made. Virtually all of the cut-through traffic has now been eliminated.

A Special Environmental Project

An unanticipated challenge arose when the Hendersonville City Council approved a plan to experiment with flashing traffic signals and 4-way stop signs on a number of Main Street intersections. *Walk Wise, Drive Smart* staff was concerned that the change would result in a less safe condition for pedestrians, especially those who were older or had functional limitations. We therefore decided to collect pre-post observational data to document the effects of the changes. Starting in October 2007, we collected the data in 30-minute periods over various times of the day. A form was devised to collect the data, but the form went through several revisions as data collectors noticed changes/events associated with the signal changes.

When the first data form was developed, we kept track of both motor vehicle-pedestrian near misses and avoidance maneuvers and motor vehicle-motor vehicle near misses and avoidance maneuvers. A near miss was defined as a sudden change in speed or direction to avoid the other party. An avoidance maneuver was defined as a change in speed or direction to avoid the other party. An example of a motor vehicle-pedestrian near miss might be a vehicle stopping suddenly to avoid a pedestrian in a crosswalk. An example of a motor vehicle-pedestrian avoidance maneuver might be a pedestrian stopping in the crosswalk to allow a motor vehicle to go through the intersection. An example of a motor vehicle-motor vehicle near miss might be a motor vehicle stopping suddenly to avoid another motor vehicle within the intersection (e.g., confusion about who has the right of way). An example of a motor vehicle-motor vehicle avoidance maneuver might be a motor vehicle starting into the intersection but braking (not suddenly) when another motor vehicle started into the intersection.

As the traffic signals changed to flashing red and the stop signs were installed, we started seeing motor vehicles encroaching into the pedestrian crosswalk area, as well as vehicles not coming to a complete stop before proceeding through the intersection (i.e., “rolling stops”). In addition, we detected many pedestrians not using the new crosswalks which had been moved out further into the intersection, even though a type of fence or barrier had been installed in some locations. Many pedestrians were following the line of sight along the sidewalks and close to store fronts to cross the Avenues intersecting with Main Street. The data collection form was revised to count these events.

The City Council decided to extend the experiment through the end of June 2008 to obtain observations in the spring and early summer, when traffic would be heavier. We collected data through May 23, 2008, analyzed the data and submitted a report to the city manager.

Findings included the following:

- Motor vehicle encroachments into the crosswalks increased after the traffic signals were changed to flashing mode.
- The numbers of rolling stops at the intersections increased dramatically after the traffic signals were changed to flashing mode.
- Motor vehicle-pedestrian near misses increased during the spring.
- Motor vehicle-pedestrian avoidance maneuvers increased during the spring.
- Motor vehicle-motor vehicle near misses increased during the spring.
- Motor vehicle-motor vehicle avoidance maneuvers were variable over time.
- About half of the pedestrians were crossing outside of the new crosswalks.

The City Council discussed the issue at their July 2008 meeting and voted to return to normal traffic signal operation on Main Street. The council was appreciative of the work done by *Walk Wise, Drive Smart* staff.

Encouraging Safe Walking

A number of activities were planned to encourage safe walking. Incentives were used for people walking on the neighborhood routes. As *Walk Wise, Drive Smart* staff made counts of walkers within all neighborhoods every quarter, they would hand out a raffle ticket as they came upon a walker and obtain the person's name and contact information. Drawings would be held to win prizes from local merchants. When possible, photographs of the winners were taken in front of the store donating the prize and placed in the local newspaper.

Walk Wise, Drive Smart decided to sponsor a monthly group walk through local parks, trails, and neighborhoods. A partner in the effort was the Environmental Conservation Organization (ECO), which used their outlets to generate publicity



Participants in monthly group walk

about the walks. Starting from a mere handful of participants in the beginning, these have grown in interest over time, and a list serve has been developed to “get the word out” about upcoming walks. The local newspaper also publicizes the availability of the walks. On a recent walk, some 26 people walked through one of the community’s historic neighborhoods and learned about how the neighborhood changed over time. Other themes have been used as well, including a bird walking event and chi walking. Sometimes the walks are held within the local mall in winter.

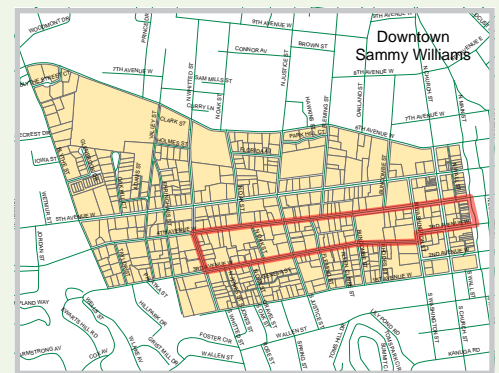
The Sammy Williams Center for Active Living created a “Walk Across North Carolina” to encourage walking in and around the center and in other places in the community. Participants tracked their distances or steps in an attempt to simulate walking across the state from west to east. *Walk Wise, Drive Smart* partnered with the senior center in this activity and provided pedometers in partnership with AARP of NC. At one time there were more than 70 participants.

More recently, Gary Eblen of Diamondbrand outfitters has started a series of weekly walks in community neighborhoods, parks, and trails. *Walk Wise, Drive Smart* is a partner, and these walks have grown in popularity.

Walk Wise, Drive Smart developed walking maps for the neighborhoods. This prompted the local Partnership for Health to start the process of developing a series of walking maps in the community. A newspaper article asked for input from local citizens. The first map is now finished. For ease in carrying, these are done like an enlarged postcard. The maps are created by the GIS coordinator for the City of Hendersonville.

Helping People Get Started

Walk Wise, Drive Smart staff learned about International Active Aging Week and decided participation in this event would be another good partnering event. Active Aging Week was initiated by the International Council on Active Aging to promote the benefits of a healthy active lifestyle. The goal was to introduce older adults to physical activity and exercise options through demonstrations, free classes, and seminars, as well as assessments to help individuals determine what programs would best meet their needs. It is an excellent opportunity to reach inactive people or people who want to try a new form of activity. The week long campaign promotes the benefits of a healthy, active lifestyle and provides opportunities to help people of all ages find enjoyable ways to be active.



Map of Sammy Williams/Downtown neighborhood walking route



Shuffleboard during Active Aging Week



Jazzercise during Active Aging Week



Group walk during kickoff event

Walk Wise, Drive Smart project staff members presented the concept to the local advisory committee in early August 2006, and it was eagerly embraced. The Council on Aging (COA) for Henderson County was the lead agency and was supported by *Walk Wise, Drive Smart* and a host of other local agencies, including Partnership for Health and academic partners from UNC and Western Carolina University.

During the kickoff to Active Aging Week, program leaders did demonstrations, such as Jazzercise, tai chi, tap dancing, yoga, and more, and interested participants were able to try the activities along with the demonstrators. Information tables and assistance for finding programs of interest was available. Other open houses, free classes, and demonstrations were held throughout the week. The *Walk Wise, Drive Smart* program sponsored several walks and a scavenger hunt as part of the 2006 events. The project web site has a section devoted to Active Aging Week and shows a calendar and description of events. Many opportunities to exercise were made available by local providers. The COA was the lead agency again in 2007, and plans are to continue to participate indefinitely.

Lessons Learned

In brief, the *Walk Wise, Drive Smart* program has been involved in many endeavors in the community. Overall, the program has been received with a tremendous amount of community interest. There was great receptivity from city officials from the outset, including the city manager, director of planning, director of public works, and police chief. Good results were obtained from bringing key stakeholder organizations together. Plans are for the Council on Aging for Henderson County to take over the program when the project ends. The program can serve as a model for other communities.

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