

Lakeshore Drive Safety

George Sipe, Member of Council - updated: August 31, 2005

Introduction

The City of Berkeley Lake is responsible for the administration of all roads within our City limits with the exception of Berkeley Lake Road and Bush Road. Except for Lakeshore Drive and the roads directly connected to it, all other City streets are within our subdivisions and have been (comparatively) recently designed. As such they are wider, have curbs, generally have good sight distance, and in some cases have sidewalks.

This document is concerned with road safety in general and pedestrian safety in particular on City controlled roads. Resident walkers are at the greatest risk since they do not have the protective cocoon of an automobile. No statistics are available to document the "close calls" that many residents of Lakeshore Drive have experienced. For them, no statistics are necessary to "prove" a significant safety problem exists.

Safety is paramount for all citizens. Many citizens have raised concerns on Lakeshore Drive. Roads such as Berkeley Walk Point may also suffer from excessive speeding and warrant similar attention, but I am not personally aware of any calls for action at this time except on Lakeshore Drive.

Problem Statement

Lakeshore Drive is an inherently dangerous road. At many points sight distance is extremely limited. Shoulders are often poor or non-existent - particularly in these locations.

While the primary purpose of the road is to serve residents, outside bicycle traffic volume has increased significantly in recent years. This increase is largely due to the influence of new club and commercial bicycle interests beyond the borders of the City.

Cyclists enjoy the challenges of Lakeshore. The hills and curves provide an attractive track for developing speed and endurance. Some curves where sight distance is very short are also at the bottom of hills where cyclists are at their peak speeds in preparation for climbing the other side.

Bicycles represent a unique danger to resident walkers due to their silence. Where sight distance is limited, cyclists and walkers quickly encounter each other with very little time for either to get out of the way. Many residents have personal experience of "close calls". A collision with a walker has been recently reported.

In addition to their silence, bicycle traffic differs from auto traffic in another important way. The vast majority of auto traffic is going to or from a Lakeshore residence and is therefore non-discretionary. Bicycle traffic is through traffic with superior alternative routes and is therefore discretionary.

Cyclists and walkers alike have been observed in violation of applicable traffic laws. However, this is not the major factor in pedestrian safety. For example, when cyclists and walkers are both on the correct side of the street, they approach each other face-to-face on the same side. On "blind curves", this gives walkers very little additional time to take whatever action may be possible. When "walkers on the left" would place them on the inside of a tight turn, they would actually be safer on the right - the outside edge of the curve where sight distance and therefore time to react is significantly greater.

The key to increasing resident walker safety is (1) reducing cyclist speed and (2) reducing cyclist volume. Reducing speed gives both cyclists and walkers more time to react. Reducing volume (or at least slowing growth) of cyclists directly reduces the frequency cyclists and walkers will encounter each other.

Solutions

Any solution must be (1) effective, (2) long term, (3) affordable, and meet the needs of (4) residents and (5) non-residents (in that order of priority).

The following 7 potential solutions meet these requirements to various degrees and with various trade-offs. For various reasons such as convenience, some solutions, while effective, may not be attractive to our community. Solutions which could be employed individually or in combination:

* Active Devices: Speed Tables, Speed Humps, and/or Rumble Strips

Speed tables and speed humps are permanently installed devices which cause a noticeable jarring to vehicles which exceed a given speed. Vehicles traveling at or below the engineered speed are not significantly impacted. Each speed table / speed hump is marked by signage and striping. Costs range from \$3,000 to \$15,000 each but are typically on the upper-end of the range for properly engineered installations. The county has had a program to install these at no cost if 80+% of residents petition. Otherwise, they could be paid for by SPLOST funds. There may be limitations on placement (e.g. straight, flat road).

* Rumble strips make noise when vehicles pass over them. They could be used ahead of stop signs to reduce our problem of cars and bicycles not stopping. Unfortunately, the noise they make would be easily heard by nearby residents and thus are not practical. Additionally, while running stop signs is not legal, it does not appear to be a major safety issue on Lakeshore.

* Conversion to One-Way

This would allow for a portion of the road to be striped-off as a pedestrian walk way. It is an affordable alternative to sidewalks.

Costs are low. A disadvantage is convenience to residents who live near any of the 4 exit intersections as they would then have to travel a full segment half of the time. Another potential disadvantage may be reduced response time for emergency vehicles (this would need to be explored, exceptions may be possible).

* Division into Cul-de-Sacs

Conversion into cul-de-sacs at 1 to 3 locations along Lakeshore would eliminate through traffic. This could be accomplished in a manner that would restrict both automobile and bicycle through traffic but allow walkers to pass.

* Lower Speed Limit (in general and/or in curves)

Lakeshore Drive has the same speed limit (25 MPH) as all other City roads, but is significantly more dangerous. Lowering the speed limit overall and lowering further on all curves (some are already 15MPH) would lower speeds and therefore increase time for both cyclists and walkers to react.

* Restrict to Local Traffic

Lakeshore Drive is a neighborhood, residential road. Serving unnecessary through traffic (auto and bicycle) is at best a secondary purpose. Reducing traffic volume directly increases safety. Our City

Attorney has reported enforcement may be problematic (more investigation will be needed).

As an alternative to, or in addition to, regulation and enforcement - "gating" access points may have merit. Gates could be constructed with a variety of mechanisms for validating entrance. This approach could also be of interest to our sub-divisions as it may have a positive effect on property values and deter crime. Viability of "gating" is dependent upon the ability of the City to continue maintenance of the roads. Costs to homeowner associations and residents would otherwise be prohibitive.

* Restrict Bicycle Access

Lakeshore Drive is a neighborhood, residential road. Serving unnecessary through bicycle traffic is at best a secondary purpose. Reducing bicycle traffic volume directly increases safety. This would primarily impact non-residents, but it is acknowledged that some Lakeshore Drive residents who enjoy cycling would also be impacted. This is legally enforceable and would be easy to enforce.

* Bicycle Registration

This solution would have extremely little impact on Berkeley Lake residents and would be very low cost. It primarily targets outside commercial and club interests using Lakeshore Drive as a bicycle-training track at the expense of resident walker safety. It is known to be legally enforceable by explicit state law.

In-effective approaches

* Drainage Grates as Alternative to Speed Tables

Drainage grates could be installed with the dual purpose of slowing bicycle traffic and aiding in storm water management. This is a creative and novel idea, but careful consideration raises numerous issues. Unlike speed tables, grates as traffic calming devices are not documented from effectiveness and liability standpoints. In the very least, they could only be installed where speed tables could be with the same signage and striping requirements. Their locations would be further restricted away from residences if noise is generated passing over them. With location restrictions, their contribution to storm water management could be very impaired. Construction would have to be substantial (reinforced concrete walls with heavy gage grates) to support our heaviest traffic loads (e.g. cement, fire, or moving trucks) and as such could easily cost more than speed tables. Raising their level to support road repaving would likely be more costly than similar expenses related to speed tables. Finally grid designs, which would be most effective in slowing or discouraging bicycle traffic, are also the most likely to raise liability risks.

* Noise Makers (clickers, bells, etc.)

Devices attached to bicycles ("clickers") would be very effective at alerting walkers of approaching cyclists. This would increase the time to react similar to slowing cyclist speed. Unfortunately, it is highly improbable that cyclists would use these devices for very long, if at all. Legally requiring them (if possible) with strict enforcement would be required.

* Signage Only

Signage only solutions would have no "teeth" and would be effective only in the near term, if at all.
Bicycle Spacing

If cycle traffic were restricted to single file and with minimum spacing of 50 or 100 feet, the ability of cyclists to quickly move around walkers would be increased. Such an ordinance may not be enforceable and if it were, would be very difficult to enforce.

* Lower Bicycle Speed Limits

Lowering the speed limit for bicycles only (e.g. 5 or 10 MPH) would be effective, but like bicycle spacing requirements may not be enforceable and if it were, would be very difficult to enforce.

* Heavy Enforcement

Heavy enforcement of speed, signaling, stop signs, lane usage, etc. would be effective but prohibitively expensive. To be effective, traffic would often have to be directly followed by police. Traffic would be cautious then, but unchanged from the current situation otherwise.

* Re-engineering Road

Re-engineering the road (widening, gentler curves, better shoulders, sidewalks, etc.) would be very difficult due to the topography and thus cost prohibitive (could easily exceed \$10M - about \$15,000 per Berkeley Lake family).

* Do Nothing

Recent publicity and poor weather have temporarily reduced bicycle traffic. Heavy enforcement of existing laws and ordinances does not address the fundamental safety issues raised by allowable speed and cyclist volume. Our residents know there will be a catastrophe. If only small and ineffective steps are taken "for show" then it will be disingenuous to later claim the inevitable accident(s) could not have been foreseen.

Proposal

Excluding bicycle registration, the most effective and affordable solutions may be the combination of:

- speed tables
- lower speed limit overall and lower further on most curves
- local traffic only designation (even if not enforceable)

or

- restriction to local traffic only
- gating

I would like to continue to explore the solutions I have identified above, and these options in particular, at our next Council meeting on September 1st.