

Accessibility Audit  
for the  
Downtown Development Authority  
City Of Grand Rapids, Michigan

Based upon actual survey  
Performed April 11 – June 23, 2006

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Prepared by  
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# Table of Contents

Table of Contents .....	2
1. Introduction.....	4
2. 2007 Conferences With A Disability Focus .....	5
3. Applicable Laws and Codes.....	6
3.1 Federal.....	6
3.2 State.....	7
3.3 City of Grand Rapids .....	7
3.3.1 SCP Design Objective 7- Pedestrian Movement .....	7
3.3.2 SPC Design Objective 9-Bus Movement.....	8
3.3.3 SPC Design Objective 12-Traffic Calming .....	8
4. Best Practices .....	9
5. Construction & Inspection Issues .....	9
6. Maintenance.....	10
7. Physical survey .....	11
8. Findings.....	12
9. The Most Noncompliant Street.....	12
10. Passengers Become Pedestrians-Arrival Points.....	13
10.1 Passenger Loading Zones .....	13
10.2 Bus Stops .....	14
10.4 The Rapid Central Station.....	16
10.5 Parking Lots .....	18
11. Vehicles Crossing Sidewalks-Driveways & Train Tracks.....	22
11.1 Driveways .....	23
11.2 Railroad Crossings .....	24
12. Sidewalks & Areas for Pedestrians.....	24
12.1 Sidewalk Width.....	26
12.2 Abrupt changes In Level.....	27
12.3 Vertical Protrusions .....	27
12.4 Grades and Cross slopes .....	28
12.5 Grates, Gaps, & Openings .....	29
12.6 Condition.....	29
12.7 Boardwalk .....	33
13. Intersections .....	33
13.1 Curb Ramps .....	34
13.2 Curb Ramp- Best Practices .....	40
13.3 Pedestrian Controlled Traffic Signals.....	42
13.4 Crosswalks .....	44
14. Best Practices-Way finding.....	44
14.1 Diagonal Crosswalks .....	44
14.2 Open Areas- Way Finding Strips.....	44
14.3 Closed Sidewalks .....	45
15. Overview of survey area & needed remedial action.....	45

15.1	Center City .....	45
15.2	WestSide .....	45
15.3	HeartSide.....	46
15. 4	HillSide .....	46
16.	Suggested Remedial Actions .....	46
17.	Summary .....	47

Appendix A-Project Area

Appendix B- A Guide to the New ADA-ABA Accessibility Guidelines

Appendix C- Sidewalk Survey

Appendix D- Curb Ramp & Crosswalk Survey

Appendix E- *Ypsilanti to Review Sidewalks for Disability-law Compliance*, The Ann Arbor News, March 10, 2006

Appendix F- Ypsilanti Complaint

Appendix G-CD with databases

## 1. Introduction

Disability Advocates of Kent County (DAKC) reviewed the downtown area including the HeartSide area of Grand Rapids, parking lots serving the downtown area, and the Rapid Central Station for compliance with accessibility standards designed to maximize movement by people with disabilities through and in the survey area.

The area surveyed is indicated on Appendix A (Project Area). The survey was performed by staff and volunteers from DAKC using standard protocols and survey tools, after a three hour training. Volunteers came from Cornerstone College, AMBUCS, and the Association for the Blind and Visually Impaired, as well as Disability Advocates of Kent County.

None of the survey teams were engineers; however standard measuring protocols and reporting formats were used. Disability Advocates' staff audit portions of the volunteers work to help assure quality control. However, there may be measuring differences between any two people who are not engineers or surveyors. In auditing the work, we found up to a 25% discrepancy for extreme slopes where there was significant damage to the measured element so standard measuring protocols could not be used. There were variances between different surveyors measuring the same slopes. The slope measurements should be considered a comparison of the relative severity of the problems.

The survey was performed from April 11, 2006 through June 23, 2006. The survey results for sidewalks and curb ramps were incorporated into an Access database to facilitate analysis. Generally, information about noncompliant elements were recorded and reported. Certain streets and corners could not be surveyed due to construction.

The survey was funded by the Downtown Development Authority of the City of Grand Rapids and the Frey Foundation. The AIA Grand Valley, a chapter of the American Institute of Architects donated equipment to help perform the survey.

Each element was surveyed at a particular point of time. Over the eight week survey period, compliance with ADAAG changed. When Fulton was examined in front of

One Trick Pony, there was not an outdoor dining area presenting an obstacle to pedestrian traffic. A few weeks later, there was an obstacle presented by a recently installed outdoor patio in the public right-of-way. When the Riverwalk behind the Amway Grand Hotel was examined, grates over the sunken lighting fixtures were in place and did not present a tripping hazard. A few weeks later several of the grates were displaced, causing an ADAAG violation. These are two changes a surveyor happened to observe. Other changes probably occurred where an element when from complaint to non-compliant. Hopefully when scheduled construction occurred, violations of the ADAAG were corrected.

Construction sites prevented access to some sections of sidewalk and curb ramps. These elements were not surveyed.

## **2. 2007 Conferences With A Disability Focus**

In the fall of 2007 two major conferences will be held in downtown Grand Rapids will be attended by more people with disabilities than typically attend most conferences.

Lions Club International is hosting the 2007 USA/Canada Forum in Grand Rapids in September of 2007. Lions are recognized worldwide for their service to the blind and visually impaired. This service began when Helen Keller challenged the Lions to become "knights of the blind in the crusade against darkness" during the association's 1925 international convention.

In the fall of 2007 the Michigan Rehabilitation conference sponsored by MARO Employment and Training Association will be held in downtown Grand Rapids. MARO members provide employment and rehabilitation training to thousands of people with barriers.

Numerous organizations designed to serve people with every major disease or illness hold national and regional conferences. Accessibility and the availability of public transportation determine how much money is spent in the community, outside of the hotels and conference facility. Frequently these conferences are held during the off or shoulder season.

Just like any other person attending a conference, people with disabilities ask “Is this city worth spending an extra few days visiting once I am in town?” For those of us with disabilities, accessibility is a key issue when making that decision.

For these conferences, accessibility is a key when making the decision if future conferences should be held in that particular city again. Repeat business will only be enhanced by accessibility. Most of these organizations are not for profit and share experiences about cities with each other: poor accessibility can cause the loss of a conference. Accessibility can become a marketing tool to attract additional conferences.

### **3. Applicable Laws and Codes**

#### **3.1 Federal**

The Americans with Disabilities Act of 1990 was the landmark civil rights legislation that identifies and prohibits discrimination against people with disabilities. It was not the first legislation dealing with physical accessibility, although it is the most comprehensive. For a history of the preceding legislation and guidelines see *Designing Sidewalks and Trails for Access, Part 2*, U.S. Department of Transportation, Publication No. FHWA-HEP-99-006, at <http://www.fhwa.dot.gov/environment/sidewalks/chap1.htm#acc>

Pursuant to the ADA, Accessibility Guidelines were promulgated. Known as the ADAAG, these guidelines establish Federal minimal standards. States are allowed to choose between the ADAAG or the Uniform Federal Accessibility Standard as a minimal standard of accessibility. States are also allowed to adopt more stringent accessibility standards. There are proposed amendments to the ADAAG, however it is unclear if they will be adopted. See Appendix B for a brief summary of the status of the revised accessibility guidelines.

Michigan incorporated the ADAAG into the 2003 Michigan Building Code, effective February 29, 2004.

### **3.2 State**

The 2003 Michigan Building Code, effective February 29, 2004 incorporates the ADAAG requirements. Sources include the International Building Code/2003 provisions (IBC), Michigan's amendments to the IBC, and the ICC/ANSI A117.1/1998. These codes were developed to incorporate the ADAAG, adopted pursuant to civil rights legislation, into the building codes used by architects, engineers, and building inspectors.

Michigan requires more van accessible parking spaces than the ADAAG. Parking was evaluated using the Michigan standard. Michigan requires 1 of every 6 spaces be van accessible.

### **3.3 City of Grand Rapids**

The City of Grand Rapids' Planning Department adopted a Street Classification Policy (SCP) in June, 1996. In general, the SCP promotes accessibility and complies with the ADA and Michigan's barrier free requirements. These requirements merit special comments because of the potential impact on accessibility.

#### **3.3.1 SCP Design Objective 7- Pedestrian Movement**

Objective 7 deals with pedestrian movement. There is minimum 5 foot wide sidewalks and a parkway between adjacent parking or traffic aisles requirement . *Attention must be paid to Guideline 7.3 to assure obstacles such as trees, benches and other obstacles are in the parkway, and not in the sidewalk area.*

Guideline 7.9 provides that "...street intersection design treatments may include ... material changes..." While material changes may be aesthetically pleasing and may be helpful to those with visual impairments, care must be taken with the use of multiple materials. Some material, particularly brick or concrete pavers, may settle unevenly or at a different rate than adjacent materials. Bricks or concrete pavers may heave in the winter. *Critical care must be given to inspect the material and make necessary repairs to assure a level surface along the path of travel. One wheelchair user of 10 years who volunteered for this project was thrown from her wheelchair due to these problems with brick sidewalks or streets.*

*While conducting the survey, even areas recently constructed using brick had broken and missing bricks after the winter. These areas included the Riverwalk along the East side of the river and sidewalks adjacent to the HeartSide Park. The brick sidewalks surrounding Courtyard Marriott have sunken so badly compared to the curb, wheelchair users cannot cross Monroe Avenue at the curb ramps.*

### **3.3.2 SPC Design Objective 9-Bus Movement**

Objective 9 deals with bus movement. The diagrams anticipate a paved or hard surface pad the sidewalk to the curb at bus stops: it would be helpful if this paved or hard surface were a requirement. *While most bus pads in the survey area have paved bus pads, many bus stops in the City of Grand Rapids require passengers to travel over grass or dirt from the sidewalk to the curb to board the bus.* The lack of a hard surface is a barrier to the use of the bus stop by some wheelchair users; in some instances or seasons, it may prevent wheelchair users from using the bus entirely. When the sign for the bus stop is in the parkway, those who are visually impaired are impeded from knowing where to look for the bus stop. A paved area would provide a signal that there may be a bus stop there and individuals with visual impairments could seek the sign. Bus stop pads must comply with ICC/ANSI A117.1-1998. See 2003 Michigan Barrier Free Design Graphics Manual, sections 507.1-507.5.

### **3.3.3 SPC Design Objective 12-Traffic Calming**

Objective 12 deals with traffic calming. Guideline 12.2 requires curb radii below the present standard be brought up to standard. This is particularly important where there is insufficient space for a person in a wheelchair to wait on a flat level surface before crossing the intersection. *While performing the survey, the curve radii were not measured, however they were evaluated to see if the City should look at the plans and evaluate whether the radii should be changed when the sidewalks or streets are upgrade or reconstructed. In general, the curb radii did not appear to meet guideline 12.2 in the CenterCity, WestSide, or HillSide Areas.*

In implementing traffic circles in accordance with Guideline 12.3, care must be taken to assure that the traffic lanes do not overlap pedestrian crosswalks.

Guideline 12.7 indicates a curbed median that provides a refuge for pedestrians crossing wide, high traffic volume streets should be considered. The accompanying



diagram does not indicate that there should be barrier free access or a cut in the median to allow wheelchair users to benefit from the refuge. Any median should comply with ICC/ANSI A117.1-1998. See 2003 Michigan Barrier Free Design Graphics Manual, section 406.12.

## 4. Best Practices

Unless otherwise specified, best practices included in this report were taken from *Designing Sidewalks and Trails for Access, Part 2*, U.S. Department of Transportation, Publication No. FHWA-HEP-99-006, at <http://www.fhwa.dot.gov/environment/sidewalks/chap1.htm#acc> .

## 5. Construction & Inspection Issues

Plans may be compliant with all applicable accessibility provisions, but may not be constructed in accordance with the plans and specification.

Construction tolerances are so important that the U.S. Architectural & Transportation Barrier Compliance Board's 199 Regulatory Requirements for Accessible Public Rights-of-Way provides:

### **"3.1.1 Construction Tolerances**

The right-of-way environment is typically held to less exacting tolerances for finishes, dimensions, and other parameters than are buildings and other facilities. It is rare for a fractional dimension to have significance in highway specifications. The dimensions of accessibility, however, must be more finely measured: a difference of more than 1/4 inch (6.5 mm) in the elevation of adjacent surfaces can significantly affect the usability of a walkway; a change in slope from 1:12 (8.33%) to 1:10 (10%) may preclude the independent use of a curb ramp by some pedestrians. For this reason, it is particularly important to design and specify exterior facilities that are well within the limits established in accessibility standards.

By specifying the maximum permissible slope, an engineer may miss the opportunity to achieve a lesser and, therefore, more usable slope. Furthermore, field construction based on such a specification may fail to

achieve the access that is required, leading to liability for changes that may be costly. Dimensions noted in accessibility provisions as "maximum" or "minimum" should not, therefore, be considered dimensions for design, because they represent the limits of a requirement. To be sure that field tolerances result in usable construction, notes and dimensions in construction documents should identify and incorporate expected tolerances so that a required dimension is not exceeded by the addition of a finish or a variation in construction practice. Plans that reflect such considerations also provide a better basis for decision making in the field."

*In evaluating the curb ramps, we found very few that complied with the ADAAG. In the DASH lots, many of the curb ramps were so out of conformity with the ADAAG they could not be safely used by those using manual wheelchairs. See Sections 13.1 and 13.2. Meeting with the contractor, DAKC had a manual wheelchair to demonstrate the problem. The contractor's representative almost tipped over using one ramp and would not attempt to navigate the worst ramp in the parking lot it was so unsafe.*

This raises a key issue with the City of Grand Rapids' inspection process for compliance with the plans and specifications. If the plans and specifications called for conformance with the ADAAG, staff inspecting the work needs to make sure it actually complies with the ADAAG.

## **6. Maintenance**

A curb ramp, side walk, or street constructed to be fully barrier free may become noncompliant over time. This may be due to settling, weather, snow removal, vandalism, normal wear and tear, or seasonal adjustments made intentionally.

*A prime example of seasonal issues is the access to the river along the Riverwalk, behind DeVos Performance Hall. On April 14, 2006 surveyed this area. The ramp to the river was open to the public, but guardrails had been removed to prevent ice damage and a plank was missing. A person in a wheelchair or a person with blindness could have easily rolled or walked into the river. The ADA has specific requirements for railings and edge protection at ramps and fishing piers. The Parks Department is supposed to have this area gated to prevent entry until the handrails are reinstalled for the season. Vandals had removed the gates.*

*Another example is the curb ramps at the intersection of Bartlett Street and Commerce Avenue. It appears that the brick street was covered with asphalt and built up to meet the curb. The street has sunken more and the asphalt has deteriorated so much, there isn't anything resembling a curb ramp. While surveying the area we noticed a resident who uses a wheelchair traveling in the streets since she could not get on to the sidewalks.*

Periodic inspections and repairs are an essential element of maintaining an environment friendly to all people, including people with disabilities. The individuals performing inspections need to be aware of the requirement of the ADAAG and the impact of noncompliance on the mobility of people with disabilities. A minor pothole may be easily avoided by most people, but could cause a wheelchair to tip over or a person with blindness to fall.

## **7. Physical survey**

DAKC surveyed approximately 100 individual elements with ADAAG requirement, or recommended by best practices, included in the survey area.

The categories are:

- Sidewalks, Bridges, and other elements included in an accessible route, other than streets
- Curb Ramps at Intersections, Driveways and Crosswalks
- Crosswalks
- Parking lots
- Bus stops
- The Rapid Central Station

## 8. Findings

Some of the results of the survey of the Project Area are reported on an Access Database entitled “DDA Accessibility Survey 2006”. The disk containing the data is enclosed. The database will allow the information to be sorted by street or problem. Elements that complied with the ADAAG did not have applicable measurements recorded. Findings are also italicized.

## 9. The Most Noncompliant Street

*Campau Avenue is one of the shortest streets in the Project Area, yet it has an example of most ADA violations. While walking the area with staff and volunteers from the Association for the Blind & Visually Impaired, a certified orientation and mobility specialist explained she advised her clients not to use Campau Avenue because of the numerous problems. When Lions Club International has its convention here in 2007, people with vision problems will not have a mobility specialist to warn them about the dangers of Campau Avenue. Hopefully the issues can be resolved by then since it is the most direct route between two of the largest downtown hotels.*

*On the southwest corner of Campau and Monroe there is a sunken brick sidewalk at the curb ramp and a cement curb that has not settled: it is an effective barrier to people using wheelchairs or having difficulty with ambulation. For people with low vision or blindness, it is a tripping hazard that could lead them laying in traffic if they tripped. If one wanted to cross Monroe, one could try to cross Monroe at Fulton: one would find the same situation.*

*As one proceeds northwest on Campau, there is construction, totally blocking the sidewalk. After jaywalking across Campau to reach the northeast side, a person would encounter more difficulties. Z's restaurant has built an outdoor deck reducing the width of the sidewalk to 24 inches at its narrowest place. Some wheelchairs could not fit through that space, meaning they would have to back track and ride in the street.*

*After making it past Z's, the gauntlet of barriers continues. There are fire hydrants in the middle of the sidewalk. There are grates with holes greater than ½ inch at its longest in the direction of travel. Trees have been removed and the dirt had eroded, leaving changes of grade up to 6” deep for people with vision problems to fall into or a wheelchair to tip into very easily. There is a drive way with potholes and*

*deteriorated utility access points to trip people. Slopes and cross slopes exceed 9% at some points. A sign protrudes 8” into the path of travel: only 4” is allowed under the ADAAG.*

*While traveling the area on another day, temporary signs related to construction across the street had been placed in the middle of the sidewalk, adjacent to Z’s deck, further making it difficult to navigate the street.*

*Campau Avenue demonstrates that ADAAG compliance is a multidiscipline endeavor, starting with site plan review, ending with ongoing maintenance.*

## **10. Passengers Become Pedestrians-Arrival Points**

Bus stops, City parking lots, the Rapid Central Station, and Passenger Loading Zones were surveyed for compliance with the ADAAG, as well as functional use issues.

### **10.1 Passenger Loading Zones**

The ADAAG requirements for Passenger Loading zones are:

#### **4.6 Parking and Passenger Loading Zones.**

**4.6.5\* Vertical Clearance.** Provide minimum vertical clearance of 114 in (2895 mm) at accessible passenger loading zones and along at least one vehicle access route to such areas from site entrance(s) and exit(s)...

**4.6.6 Passenger Loading Zones.** Passenger loading zones shall provide an access aisle at least 60 in (1525 mm) wide and 20 ft (240 in)(6100 mm) long adjacent and parallel to the vehicle pull-up space (see [Fig. 10](#)). If there are curbs between the access aisle and the vehicle pull-up space, then a curb ramp complying with [4.7](#) shall be provided. Vehicle standing spaces and access aisles shall be level with surface slopes not exceeding 1:50 (2%) in all directions.

*Most of the passenger loading zones had a curb ramp, however most did not comply with the ADAAG. For example, the ramp from the Passenger Loading Zones at the*

*David D. Hunting Branch of YMCA was in excess of 14%. Section 4.7 of the ADAAG requires the slope should not exceed 8.3%.*

*Often the curb ramp is at one end of the loading zone. Most Passenger Loading Zones are being used as short term parking. When cars are parked in the Passenger Loading Zone, a person who disembarked from a vehicle who cannot ambulate up the curb has to travel in the street to reach the curb ramp to reach the sidewalk. Enforcement of parking regulations is a part of maintaining ADAAG compliance.*

## **10.2 Bus Stops**

Many people with disabilities use public transportation since they do not drive. Many factors, other than the ADAAG requirements, affect the use of the line-haul bus service by people with disabilities. Before addressing the ADAAG requirements, these other issues will be addressed.

*If a bus stop lacks a stable, level surface where the bus deploys passengers, many people who use wheelchairs or have problems with ambulation cannot use that bus stop. Within the survey area, only 3 of the 93 bus stops do not have a bus pad: those bus stops are functionally non-existent for those who cannot ambulate or maneuver their wheelchair over grass or dirt. The one stop with out a pad is on Jefferson Avenue , just north of Bridge Street. The others are on Scribner Avenue, Michigan Street and Mt. Vernon Avenue.*

*The lack of bus pads outside of the survey area prevents many people from using the line-haul buses to access the survey area, increasing the number of Go! Buses traveling in the urban core.*

Aside from the ADAAG, Michigan Barrier Free code, and the City of Grand Rapids Street Classification Policy, disability organizations have worked with the Inter-Urban Transportation Partnership to get consistent signs of a distinctive shape on distinctive poles. Round signs on round poles were agreed upon. They are easy to identify in the distance and those with vision impairments know via the shape of the pole that it is a bus stop.

*Some Rapid Bus Signs and many of the DASH Bus stop signs are mounted in concrete bases close to the curb at a height that can be easily obscured by minivans, SUVs and large cars. In addition The Rapid bus stop signs in these bases are not all round, some appear to be mounted to U-channel posts. The Inter-Urban Partnership reports signs are temporary and will be replaced by the standard poles at the standard height.*

*While conducting the survey, DAKC was able to identify several Rapid bus stops by asking people lining up why they were there: the bus stop signs were missing. People with vision problems cannot use other landmarks to be sure they are at a bus stop. Maintenance of accessibility features is an ongoing process.*

*The DASH bus stops are marked to allow users to identify which DASH routes are served by the bus stop. Raising the signs on poles would make it easier for users to find the Dash stops from a distance. Not all of the DASH have pads. These are not accessible for the reasons outlined above.*

*Newer bus stop shelters have benches with handles. Many people with disabilities have problems standing up from a chair or bench without arms. Upgrading the seating in the bus shelters will help those with disabilities access the survey area using the line-haul buses. While conducting the survey, a business owner on Bridge Street stopped us to advocate for more bus shelters with benches that have handles. This was due to the ageing population in the area who rely on the buses.*

*Since the project was designed, the Inter-Urban Partnership has made decision making the survey of signs at the bus stops moot. Bus stops along route 6 have had posted schedules and route maps and tactile identification tags of the route served. This was a trial by the Rapid. There are plans underway to install schedules and route maps at all bus stops within the survey area. Staff indicated tactile metal tags will be installed on each pole to assist those with blindness or visual impairments identify which routes are served by the bus stop. This will facilitate out of town visitors and occasional users of the bus finding their way.*

The AGAAG requirements for bus stops provide:

## **10.2 Bus Stops and Terminals.**

### **10.2.1 New Construction.**

**(1)** Where new bus stop pads are constructed at bus stops, bays or other areas where a lift or ramp is to be deployed, shall have a firm, stable surface; a minimum clear length of 96 inches (measured from the curb or vehicle roadway edge) and a minimum clear width of 60 inches (measured parallel to the vehicle roadway) to the maximum extent allowed by legal or site constraints; and shall be connected to streets, sidewalks or pedestrian paths by an accessible route complying with [4.3](#) and [4.4](#). The slope of the pad parallel to the roadway shall, to the extent practicable, be the same as the roadway. For water drainage, a maximum slope of 1:50 (2%) perpendicular to the roadway is allowed.

**(2)** Where provided, new or replaced bus shelters shall be installed or positioned so as to permit a wheelchair or mobility aid user to enter from the public way and to reach a location, having a minimum clear floor area of 30 inches by 48 inches, entirely within the perimeter of the shelter. Such shelters shall be connected by an accessible route to the boarding area provided under paragraph [\(1\)](#) of this section.

**(3)** Where provided, all new bus route identification signs shall comply with [4.30.5](#). In addition, to the maximum extent practicable, all new bus route identification signs shall comply with [4.30.2](#) and [4.30.3](#). Signs that are sized to the maximum dimensions permitted under legitimate local, state or federal regulations or ordinances shall be considered in compliance with [4.30.2](#) and [4.30.3](#) for purposes of this section.

EXCEPTION: Bus schedules, timetables, or maps that are posted at the bus stop or bus bay are not required to comply with this provision.

*In general, the bus stops within the survey area comply with the minimal requirements of the ADAAG. The problems for people with disabilities arise from non-ADAAG issues.*

## **10.4 The Rapid Central Station**

Again, issues other than the ADAAG requirements affect the ability of people with disabilities using the Rapid Central Station.



*The main issue for anyone using the Rapid Central Station is determining how to get to one's destination. One travels through DASH Lot 6A to reach the Van Andel Arena most expeditiously. Way finding signs on the bus platform would help out of town guests and new users of the bus system. The signs should indicate ADAAG complaint routes.*

*None of the seats on the platform has arms. Many people with disabilities have problems standing up from a chair or bench without arms. Adding additional seating with arms on the bus platform will help those with disabilities access the survey area using the line-haul buses. This is not an ADAAG requirement.*

*The parking and pedestrian circulation patterns were examined for compliance with then ADAAG. There are 2 ADAAG violations:*

- 1. In the parking lot in front of the station, the sole handicapped parking space is not ADA complaint; it does not have the requisite access aisle. It should be a van accessible space, with a 96" aisle.*
- 2. The passenger loading zone on Bartlett Street does not have a curb ramp. See Section 10.1.*

*The crosswalk between the platform to the bus station is at a diagonal. A person with a vision impairment or blindness could line up to walk from the platform to the bus station and by walking straight, go up Bartlett Street rather than reach the entrance to The Rapid Central Station. The crosswalk has been scored and painted to minimize the problem, but new users could have a problem. Best practices would have the crosswalk perpendicular to the platform and the bus station.*

*The platform edges and sidewalks adjacent to the Rapid Central Station do have detectable markings as required by the ADAAG. However, they are made of a material that is subject to wear and becomes undetectable after a year or two. See Section 13.1, page 38 regarding detectable warnings.*

*ADAAG violations outside of the Rapid Central Station affect pedestrian access. Curb ramps along Granville north of Bartlett Street at make access for people with ambulation problems difficult or impossible. Some of the ramps lead down to curbs.*

*This is a problem at some corners of Williams, Cherry and Oakes Streets. Sidewalks and curb ramps on Grandville south of Bartlett Street suffer from poor repair.*

### **10.5 Parking Lots**

The City owned parking lot at The BOB and DASH Parking Areas 1,2,4,5,6,6A,7,8, and 9 were reviewed for compliance with the ADAAG and Michigan’s Building Code.

Michigan requires 1 van accessible handicapped parking space for every 6 handicapped parking spaces. This is more stringent than the ADAAG.

The ADAAG requirements are:

(5) **(a)** If parking spaces are provided for self-parking by employees or visitors, or both, then accessible spaces complying with [4.6](#) shall be provided in each such parking area in conformance with the table below. Spaces required by the table need not be provided in the particular lot. They may be provided in a different location if equivalent or greater accessibility, in terms of distance from an accessible entrance, cost and convenience is ensured.

<b>Total Parking in Lot</b>	<b>Required Minimum Number of Accessible Spaces</b>
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 percent of total
1001 and over	20 plus 1 for each 100 over 1000

Except as provided in (b), access aisles adjacent to accessible spaces shall be 60 in (1525 mm) wide minimum.

**(b)** One in every eight accessible spaces, but not less than one, shall be served by an access aisle 96 in (2440 mm) wide minimum and shall be designated "van accessible" as required by [4.6.4](#). The vertical clearance at such spaces shall comply with [4.6.5](#). All such spaces may be grouped on one level of a parking structure.

EXCEPTION: Provision of all required parking spaces in conformance with "Universal Parking Design" (see appendix [A4.6.3](#)) is permitted.

## **4.6 Parking and Passenger Loading Zones.**

**4.6.2 Location.** Accessible parking spaces serving a particular building shall be located on the shortest accessible route of travel from adjacent parking to an accessible entrance. In parking facilities that do not serve a particular building, accessible parking shall be located on the shortest accessible route of travel to an accessible pedestrian entrance of the parking facility. In buildings with multiple accessible entrances with adjacent parking, accessible parking spaces shall be dispersed and located closest to the accessible entrances.

**4.6.3\* Parking Spaces.** Accessible parking spaces shall be at least 96 in (2440 mm) wide. Parking access aisles shall be part of an accessible route to the building or facility entrance and shall comply with [4.3](#). Two accessible parking spaces may share a common access aisle (see [Fig. 9](#)). Parked vehicle overhangs shall not reduce the clear width of an accessible route. Parking spaces and access aisles shall be level with surface slopes not exceeding 1:50 (2%) in all directions. [Appendix Note](#)

**4.6.4\* Signage.** Accessible parking spaces shall be designated as reserved by a sign showing the symbol of accessibility (see 4.30.7). Spaces complying with [4.1.2\(5\)\(b\)](#) shall have an additional sign "Van-Accessible" mounted below the symbol of accessibility. Such signs shall be located so they cannot be obscured by a vehicle parked in the space. [Appendix Note](#)

**4.6.5\* Vertical Clearance.** Provide minimum vertical clearance of 114 in (2895 mm) at accessible passenger loading zones and along at least one vehicle access route to such areas from site entrance(s) and exit(s). At parking spaces complying with [4.1.2\(5\)\(b\)](#), provide minimum vertical clearance of 98 in (2490 mm) at the parking space and along at least one vehicle access route to such spaces from site entrance(s) and exit(s). [Appendix Note](#)

**A4.6.4 Signage.** Signs designating parking places for disabled people can be seen from a driver's seat if the signs are mounted high enough above the ground and located at the front of a parking space.

The City of Grand Rapids Parking Department provided the total number of parking spaces for each lot, except for the DASH Parking Area 8. The DDA told DAKC part of DASH Parking Area was controlled by the City, part by the YMCA, however the areas were not delineated. As a result, DAKC could not determine if the City portion had the required number of spaces.

*The parking spaces meet the requirement of the ADAAG unless otherwise noted below:*

<b>Parking Area</b>	<b>Total Parking Spaces</b>	<b>Total Required Handicapped Spaces</b>	<b>Actual ADA Compliant Spaces</b>	<b>Total Required Van Spaces</b>	<b>Actual ADA Complaint Van Spaces</b>
BOB	70	3	0	1	0
Area #1	101	5	4	1	0
Area #2	149	5	0	1	0
Area #6	148	5	0	1	0
Area #6a	190	6	2	1	0
Area #8		Unknown	0		0

*The DASH Parking Area 4,5,7 and 9 the required parking spaces properly marked.*

*DASH Parking Area 8 did not have any ADAAG compliant parking spaces: the signs were not high enough to be visible from the driver's seat. Only one had the required access aisle. In general, the bottom of the sign should be between five and eight feet above the ground to allow driver's to see the signs over adjacent parked vehicles.*

*The BOB has one parking space with a handicapped sign, however the access aisle is only 4 1/2 feet wide, rather than 5' feet. In addition it is located in the middle of the lot, maximizing the distance the user must travel to exit the lot, rather than minimize that distance. At a minimum, the lot should have at least 2 regular handicapped spaces and 1 van accessible space located near pedestrian exits.*

*DASH Parking Area 1 has many spaces with handicapped parking signs, but only 4 spaces comply with the ADAAG. One of the four spaces is wider than the others, but lacks the required access aisle and sign for a van accessible parking space. The remaining parking spaces do not have the access aisle. The access aisle is important for those who need to fully open the car door to exit, needs assistance in standing, or need room to deploy a wheelchair.*

*The other problem with the DASH Parking areas is improper curb ramps. The applicable ADAAG requirements for curb ramps are:*

#### **4.7 Curb Ramps.**

**4.7.1 Location.** Curb ramps complying with 4.7 shall be provided wherever an accessible route crosses a curb.

**4.7.2 Slope.** Slopes of curb ramps shall comply with [4.8.2](#). The slope shall be measured as shown in [Fig. 11](#). Transitions from ramps to walks, gutters, or streets shall be flush and free of abrupt changes. Maximum slopes of adjoining gutters, road surface immediately adjacent to the curb ramp, or accessible route shall not exceed 1:20.

*There are significant problems with most of the DASH Parking Lot curb ramps. A few curb ramps that have been constructed to accommodate inset bricks meet the ADAAG requirements. Those that violate the ADAAG appear to use extruded curb between the ramp and gutter have serious ADAAG violations.*

Section 7.3.8 from *Designing Sidewalks and Trails for Access Best Practices Guide* explains why the transition between adjacent curb ramp surfaces should be flush.

#### **7.3.8 Transition height**

Transition points between adjacent curb ramp surfaces should be flush. Even a 13 mm (0.5 in) change in level combined with a change in grade can complicate access for wheelchair users. If the change in grade is significant, a height transition may also increase the likelihood of problems for individuals with balance limitations.

Transition points found within the curb ramp area include:

- Street and gutter;
- Gutter and ramp;

- Ramp and landing; and
- Landing and sidewalk approach.

The two most problematic transition points occur between the street and the gutter and the gutter and the curb ramp. In these situations, it is critical that the combination of change in grade and transition height be minimized. In addition to contributing to a user's dynamic instability, curb ramp lips will also change the angle of the wheelchair, as if the wheelchair were on an increased grade. For example, if a ramp is designed with an 8.3 percent slope and has a 19 mm (0.75 in) lip at the bottom of the ramp, the actual grade the wheelchair user has to negotiate is 11.6 percent. Curb ramp lips are not allowed by ADAAG.

*The transitions in several of the DASH Parking Lots are significant. Between the ramp and the gutter slope of the rolled curb the following slopes were measured:*

*DASH Area 4- 20.2% slope*

*DASH Area 6- 23.7% slope*

*DASH Area 7- 19.1% slope, 17.96% slope, 32.4%*

*DASH Area 9-9.6% slope, 11.2% slope*

*While training people to conduct the survey of downtown a gentleman, who has no ambulation problems, explained how he had fallen and broken his elbow when he was expecting a flush transition and there was an abrupt change such as those in the DASH Parking Lots: snow obscured the problem. The father of one of the surveyors was a double amputee and ambulated very well: his only falls were due to curb ramp transitions similar to those in the DASH Parking Lots.*

## **11. Vehicles Crossing Sidewalks-Driveways & Train Tracks**

Vehicles cross areas that are an integral part of the sidewalks at train tracks and driveways. These areas can pose safety concerns for pedestrians.

## **11.1 Driveways**

*In general, the City of Grand Rapids has done a good job requiring the sidewalks remain useable by pedestrians crossing driveways: the sidewalk remains level where they cross sidewalks or have ADAAG compliant slopes.*

*However, those that do not comply with the ADAAG are seriously out of compliance. Six were so far from ADAAG requirements; they could not be measured in a meaningful way.*

*The serious problems driveways are:*

- *Bridge Street Alley, north side. There is an old brick alley that has sunk so deep, it is not useable by people with normal ambulation.*
- *Williams Street Alley at Commerce Avenue, not useable by anyone.*
- *Oakes Street, north side, just east of Grandville Avenue. Old brick drive so sunken, difficult to navigate.*
- *Lyon Street, just east of the Riverwalk, no ramps to cross the service entrances to DeVos Performance Hall.*
- *Campau Avenue, just south of Pearl Street. The driveway has slopes and cross slopes between 9-10%; this makes it very difficult for people to navigate.*
- *Goodrich & Sheldon, north side, curbs without sloped sides.*

*The remaining driveways with slope issues are at parking ramps in the HillSide Area. Between the slopes of streets interacting with the slopes of the ingress and egress ramps, some of the slopes exceed the 8.3% allowed by the ADAAG.*

*The other issues with the driveways are maintenance issues. Due to the truck and automobile traffic, there are more potholes, cracks, and abrupt level changes. See the Section 12.6.*

*Although not ADAAG issues, driveways pose a few issues for those who are blind or have vision impairments. One problem is when there are parking lots with traffic control arms close to the sidewalk. It is easy for a person to walk into the parking structure, rather than along the sidewalk. A good example is on the west side of Monroe, just north of Campau. While traveling north on Monroe, a volunteer ended up walking into a parking structure, rather than along Monroe.*

## **11.2 Railroad Crossings**

Detectable warnings are required whenever a pedestrian walkway crosses vehicular traffic lanes, except for driveways. They act as a stop sign for those with blindness or visual impairments. Vehicular traffic lanes include railroad tracts. *None of the railroad crossings in the Project Area had detectable warnings as required by the ADAAG. See Section 13.1, page 38 for the requirements for detectable warnings.*

*The railroad tracks at were built so there were cracks in excess of 1/2" wide between the adjacent pedestrian traffic aisle and the track. There are many devices to reduce the cracks to 1/2" or less, as allowed by the ADAAG. They may be made of steel, concrete or rubber. In the parkway, but not the sidewalk area, steel devices were occasionally used to reduce the cracks, but more slip resistant products are available. A brief search of the internet yielded several products designed to comply with the ADAAG. Rubber or concrete devise because they are more slip resistant than those made of steel.*

## **12. Sidewalks & Areas for Pedestrians**

Curb ramps, pedestrian controlled traffic signals, and crosswalks will be addressed in a separate section since they pose unique and common problems.

The ADAAG requirements for accessible routes are:

**4.3.1\* General.** All walks, halls, corridors, aisles, skywalks, tunnels, and other spaces that are part of an accessible route shall comply with [4.3. Appendix Note](#)

### **4.3.2 Location.**

**(1)** At least one accessible route within the boundary of the site shall be provided from public transportation stops, accessible parking, and accessible passenger loading zones, and public streets or sidewalks to the accessible building entrance they serve. The accessible route shall, to the maximum extent feasible, coincide with the route for the general public.



**4.3.3 Width.** The minimum clear width of an accessible route shall be 36 in (915 mm) except at doors (see [4.13.5](#) and [4.13.6](#)). If a person in a wheelchair must make a turn around an obstruction, the minimum clear width of the accessible route shall be as shown in [Fig. 7\(a\)](#) and [\(b\)](#).

**4.3.4 Passing Space.** If an accessible route has less than 60 in (1525 mm) clear width, then passing spaces at least 60 in by 60 in (1525 mm by 1525 mm) shall be located at reasonable intervals not to exceed 200 ft (61 m). A T-intersection of two corridors or walks is an acceptable passing place.

**4.3.5 Head Room.** Accessible routes shall comply with [4.4.2](#).

**4.3.6 Surface Textures.** The surface of an accessible route shall comply with [4.5](#).

**4.3.7 Slope.** An accessible route with a running slope greater than 1:20 is a ramp and shall comply with [4.8](#). Nowhere shall the cross slope of an accessible route exceed 1:50.

**4.3.8 Changes in Levels.** Changes in levels along an accessible route shall comply with [4.5.2](#). If an accessible route has changes in level greater than 1/2 in (13 mm), then a curb ramp, ramp, elevator, or platform lift (as permitted in [4.1.3](#) and [4.1.6](#)) shall be provided that complies with [4.7](#), [4.8](#), [4.10](#), or [4.11](#), respectively. An accessible route does not include stairs, steps, or escalators. See definition of "egress, means of" in [3.5](#).

#### **4.4 Protruding Objects.**

**4.4.1\* General.** Objects projecting from walls (for example, telephones) with their leading edges between 27 in and 80 in (685 mm and 2030 mm) above the finished floor shall protrude no more than 4 in (100 mm) into walks, halls, corridors, passageways, or aisles (see [Fig. 8\(a\)](#)). Objects mounted with their leading edges at or below 27 in (685 mm) above the finished floor may protrude any amount (see [Fig. 8\(a\)](#) and [\(b\)](#)). Free-standing objects mounted on posts or pylons may overhang 12 in (305 mm) maximum from 27 in to 80 in (685 mm to 2030 mm) above the ground or finished floor (see [Fig. 8\(c\)](#) and [\(d\)](#)). Protruding objects shall not reduce the clear width of an accessible route or maneuvering space (see [Fig. 8\(e\)](#)). [Appendix Note](#)

**4.4.2 Head Room.** Walks, halls, corridors, passageways, aisles, or other circulation spaces shall have 80 in (2030 mm) minimum clear head room (see [Fig. 8\(a\)](#)). If vertical clearance of an area adjoining an accessible route is reduced to less than 80 in (nominal dimension), a barrier to warn blind or visually-impaired persons shall be provided (see [Fig. 8\(c-1\)](#)).

#### **4.5 Ground and Floor Surfaces.**

**4.5.1\* General.** Ground and floor surfaces along accessible routes and in accessible rooms and spaces including floors, walks, ramps, stairs, and curb ramps, shall be stable, firm, slip-resistant, and shall comply with 4.5. [Appendix Note](#)

**4.5.2 Changes in Level.** Changes in level up to 1/4 in (6 mm) may be vertical and without edge treatment (see [Fig. 7\(c\)](#)). Changes in level between 1/4 in and 1/2 in (6 mm and 13 mm) shall be beveled with a slope no greater than 1:2 (see [Fig. 7\(d\)](#)). Changes in level greater than 1/2 in (13 mm) shall be accomplished by means of a ramp that complies with [4.7](#) or [4.8](#).

**4.5.4 Gratings.** If gratings are located in walking surfaces, then they shall have spaces no greater than 1/2 in (13 mm) wide in one direction (see [Fig. 8\(g\)](#)). If gratings have elongated openings, then they shall be placed so that the long dimension is perpendicular to the dominant direction of travel(see [Fig. 8\(h\)](#)).

flared sides; the maximum slope of the flare shall be 1:10 (see [Fig. 12\(a\)](#)). Curb ramps with returned curbs may be used where pedestrians would not normally walk across the ramp (see [Fig. 12\(b\)](#)).

## **12.1 Sidewalk Width**

*Except for Campau Avenue, the sidewalk widths in the survey area met ADAAG requirements, as well as the City SCP Design Objective 7- Pedestrian Movement of sidewalks at least 60” wide. On Campau Avenue Z’s deck and a newspaper box reduced the sidewalk width to 24 inches*

*The City SCP Design Guideline 7.3 was regularly violated: obstacles such as signs, benches, etc. were not limited to the parkway between the sidewalk and the traffic*

lanes. The primary violations were outdoor seating areas for restaurants and signs in the middle of the sidewalk. Due to liquor license requirements, outdoor areas need to be contiguous to the rest of the premises. Those that are neatly enclosed with a fence a person with blindness can follow pose the least problems. Those that use no fence or use planters to isolate the area pose particular problems for those with blindness: they have to navigate past each piece of furniture or planter as a separate obstacle.

## **12.2 Abrupt changes In Level**

There were approximately 103 changes in level in excess of 1/4" that were not ramped: 25 of these were in excess of 2". These pose a tripping hazard for people with mobility impairments, as well as the general population. In addition, if the change in level is significant enough, people in wheelchairs cannot navigate the change in level. A routine maintenance program to ramp the changes in elevation should be considered and would resolve these issues.

The following changes in elevation are more than a routine maintenance program could resolve and should be addressed:

- Commerce Avenue, between Wealthy and Cherry Streets that has not been replaced recently. The sidewalks, streets, curb ramps are all in serious need of repairs, resulting in numerous ADAAG violations. While surveying the area, a woman was using a wheelchair. She traveled in the streets because the sidewalks and curb ramps were impassable in a wheelchair.
- Granville, south of Oakes

## **12.3 Vertical Protrusions**

Vertical protrusions are projections into the path of travel in excess of 4" that are between 27" and 80" above ground level. The survey only found 2 vertical protrusions violations: a sign on Campau Avenue and a guy wire west of the David D. Huntington YMCA parking lot.

## **12.4 Grades and Cross slopes**

In general, sidewalk slopes should not exceed 5% and the cross slope should not exceed 2%. *Due to the terrain of the HillSide area, most of the slopes exceed the recommended limit. While short ramps of 8.3% are manageable, long slopes over 5% are difficult for most people with disabilities to navigate. These areas pose problems for people using wheelchairs as well as those individuals with ambulation problems, respiratory problems, cardiac problems and blindness.*

*One of the volunteers drove Go Bus. One of his passengers started rolling west along Michigan Avenue from Spectrum Hospital. Her wheelchair gained speed and went out of control: her only method of stopping was to hit a support projecting from the Spectrum Hospital parking structure. The Association for the Blind and Visually Impaired also note that if there is not a level landing before a street, a person with blindness may not realize they have come to a street and walk into traffic lanes. This situation occurs at Michigan and Division.*

*The second area where there are grade problems is on Williams, Bartlett, and Goodrich Streets between Division and Ionia Avenue. The slopes exceed 10%.*

*One solution is to use wider sidewalks so people with disabilities can walk or roll across the sidewalk at an angle, making for a longer distance traveled, but at less slope. In the HillSide Area this has been done. On Lyon between Bostwick and Division there is a significant cross slope ranging between 9.9-19.1% on part of the sidewalk, preventing the use of this tactic to navigate the hill. In addition the steep cross slope presents a serious risk of a person in a wheelchair tipping over sideways or a person with ambulation problems falling. Examining the building entrances on this block brings home the need to consider the ADAAG requirements when evaluating and approving site plans.*

*Another option is to provide periodic level resting areas with a bench and space for a wheelchair to sit level to allow people to rest before proceeding. This should be considered on the steeper slopes. On the south side of Michigan Avenue, the entrance to the Van Andel Institute provides a more level area for people to rest, as does a part of the overpass.*

*A third option is to provide warnings about steep grades and suggest alternative routes. This could easily be done.*

*With HillSide becoming an important medical center in West Michigan and the hotels nearest the hospital being downtown, the City may want to consider publicizing the DASH system as a way to avoid people with disabilities having to navigate the hills.*

*Where the sidewalks meet a curb ramp a level area (less than 2% grade in any direction) provides a place for people using manual wheelchairs to change direction of travel and wait to cross the street, without having to hold their chair in place. This would be very valuable in the HillSide area.*

### **12.5 Grates, Gaps, & Openings**

*Gratings should have opening in the predominate direction of travel no more than ½". Other than manhole covers with have openings between ¾" and 1", there are 34 significant openings and should be dealt with. Those that pose the most immediate risk are those along the Riverwalk on them east side of the river: it is an area where people are likely to be walking in the evening, distracted by the views.*

*The newer tree grates have openings less than 1/2" wide and are to be encouraged. Older tree grates in the parkway do not pose as serious as a problem so long as there are trees in them. However, on Campau where the trees have been removed and the walkway is narrow, missing grates, and the holes for the trees are functionally within the path of travel.*

*When manhole covers are replaced, they should be replaced with ones with holes no more than 1.2" in diameter.*

*Many of the grates that are noncompliant are due to installation with the ½" dimension parallel to the path of travel, rather than perpendicular to the path of travel. These call attention to the need to pay attention to the ADAAG from specifying product through installation and inspection.*

### **12.6 Condition**

The ADAAG requires a stable, firm, and slip resistant walking surface. The sidewalks were examines for cracks grater than ½ inch, badly cracked areas, settled areas,

overgrown vegetation, and potholes. Between unramped elevation changes and the above problems, the following sections of sidewalks need repairs above a routine maintenance program:

- *Commerce Avenue between Cherry Street and Wealthy Street*
- *Grandville Avenue*

*All of the sidewalks on the overpasses and bridges serving vehicles have serious condition problems, especially near the buttresses:*

- *Michigan Avenue, between Division & Ottawa and over the Grand River*
- *Pearl Street, over the Grand River*
- *West Fulton Street, over the Grand River*
- *Wealthy Street, over US 131*

Slip resistance must be considered in the design and construction phases. Best practices included in *Designing Sidewalks and Trails for Access, Part 2*, provides:

#### **4.3.1.2 Slip resistant**

Under dry conditions, most asphalt and concrete surfaces are fairly slip resistant.

1. **Slip resistance** is based on the frictional force necessary to permit a person to ambulate without slipping. A slip resistant surface does not allow a shoe heel, a wheelchair tire, or a crutch tip to slip when ambulating on the surface.

A broom finish should be used on concrete sidewalks to increase the slip resistance for pedestrians. Decorative paints and surfaces, such as polished stones or exposed aggregate rock, are not as slip resistant and should be avoided.

Some asphalt sealants decrease the slip resistance of asphalt. In addition, the specification of the aggregate sieve spectrum has a significant impact on the slip resistance of the final surface. In general, brushed concrete is more slip resistant than asphalt, depending on the type of aggregate used. The U.S. Access Board Technical Bulletin #4 (1994a) addresses slip resistance in further detail.

Thermoplastic materials, commonly used to mark lines on asphalt or concrete at crosswalks, are generally not as slip resistant as the roadway surface. The problem is exaggerated when the surface is wet. Whenever possible, a texture should be added to thermoplastic materials to improve slip resistance. Some research suggests that additives, such as crushed glass will improve the slip resistance of thermoplastics. Further research is necessary to identify more effective materials to mark crosswalks. More information about crosswalks is included in Section 8.5.

#### **4.3.1.3 Wet or icy surfaces**

Slip resistant surfaces are more difficult to achieve when the sidewalk material is wet or icy. Surfaces that are wet or icy are difficult for all pedestrians to travel across, but they are especially difficult for people who use wheelchairs or walking aids. Crutch users, for example, rely on being able to securely plant their crutch tip to travel effectively on the sidewalk. If the surface is icy, it creates a major safety problem.

Solutions for preventing water and ice from collecting on the sidewalk include:

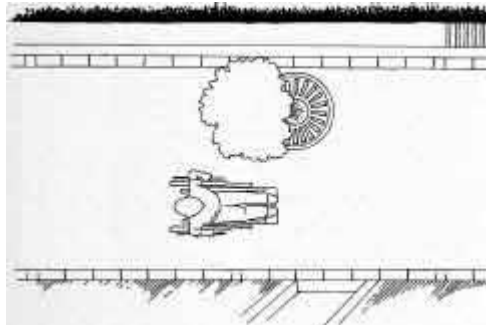
1. **SOLUTION 1** - Design the sidewalk so that only water that falls directly onto the sidewalk and not water that falls onto adjacent surfaces requires management;
2. **SOLUTION 2** - Create drainage systems to prevent water from settling on the sidewalk; or
3. **SOLUTION 3** - Establish a regular maintenance program to remove snow and add salt or sand to slippery sidewalk areas.

There are many decorative surface materials that do not violate then ADAAG, however they pose significant difficulties for people with disabilities. *Designing Sidewalks and Trails for Access, Part 2*, provides a more diplomatic explanation than wheelchair users who have been stuck or tipped from their chairs due to decorative materials.

#### **4.3.1.4 Decorative surface materials**

Asphalt and concrete are the most common surfaces for sidewalks; however, some sidewalks are designed using decorative materials, such as brick or cobblestone. Although these surfaces may improve the aesthetic quality of the sidewalk, they may also increase the amount of

work required for mobility. For example, tiles that are not spaced tightly together can create grooves that catch wheelchair casters. These decorative surfaces may also create a vibrating bumpy ride that can be uncomfortable and painful for those in wheelchairs. Thus, the surface texture should be vibration free with a limit of 6.4 mm (1/4 inch) or less rise not more than every 760 mm (30 in). In addition, brick and cobblestone have a tendency to buckle creating changes in level. This creates a tripping hazard for people with vision impairments and for ambulatory pedestrians with mobility impairments. Finally, decorative surface materials can make it more difficult for pedestrians with vision impairments to identify detectable warnings which provide critical information about the transition from the sidewalk to the street.



*Figure 4-34. Concrete with brick trim edging is easier for people with mobility impairments to negotiate.*

For these reasons, brick and cobblestone sidewalks are not recommended. Creative alternatives to brick sidewalks include:

- Concrete sidewalks with brick trim, which preserves the decorative quality of brick but is an easier surface to negotiate; or
- Colored asphalt or concrete (stamped to look like brick). Although preferred in comparison to using actual decorative surface material, this option can also create a bumpy surface. Consequently, people with mobility impairments may experience some difficulty when traveling over these surfaces. The surface texture should be vibration free with a limit of 6.4 mm (1/4 in) or less rise not more than every 760 mm (30 in).

Many historic districts use decorative surface materials for pathways. Access to historic districts is critical, because they provide cultural enrichment and a sense of connection with the past. Oftentimes, historic districts are not accessible to people with disabilities and therefore require novel solutions to improve access. In downtown Seattle, for



example, Pioneer Square is designated as a historic district. The majority of pathways are surfaced with an uneven cobblestone. To accommodate people with mobility impairments in this park, an additional pathway was created using smoother and larger pavers with fewer changes in level. The look of the park was preserved and people with mobility impairments are accommodated.

## **12.7 Boardwalk**

The ramps from the Riverwalk to the Boardwalk were constructed before the ADAAG regulations for Fishing Piers and Platforms were adopted. However, section 4.8.7 of the ADAAG provided for edge protection that is the same as the new regulations. The new ADAAG regulations provide:

*15.3.3.1\* Edge Protection.* Edge protection shall be provided and shall extend 2 inches (51 mm) minimum above the ground or deck surface.

*Exception:* Where the railing, guard, or handrail is 34 inches (865 mm) or less above the ground or deck surface, edge protection shall not be required if the deck surface extends 12 inches (305 mm) minimum beyond the inside face of the railing. Toe clearance shall be 9 inches (230 mm) minimum above the ground or deck surface beyond the railing. Toe clearance shall be 30 inches (760 mm) minimum wide (see Fig. 62).

*The main problem with it as constructed is the lack of edge protection provided by Sections 4.8.7 and 15.3.3.1. An edge that extends 2" above the ramp and deck surfaces would prevent wheelchairs, scooters, carriages, skateboards, etc. going over the edge.*

## **13. Intersections**

Many ADAAG issues arise at intersections. The interaction between pedestrians and vehicular traffic makes crossing the street one of the more dangerous pedestrian activities, particularly for many people with disabilities.

## 13.1 Curb Ramps

The most numerous problems disclosed by the survey involved curb ramps. Below are the specific ADAAG requirements of curb ramps, followed by the status of the ramps in the survey area.

### 4.7 Curb Ramps.

**4.7.1 Location.** Curb ramps complying with 4.7 shall be provided wherever an accessible route crosses a curb.

*There are many curb ramps that do not meet the specification of the ADAAG, but there are between 45 and 66 locations that do not have curb ramps or where the curb ramps are so deteriorated that they are nonexistent for all practical purposes, or have a ramp and still have a curb.*

*The exact number varies for a variety of reasons. For example, at the corner of East Park Place and Library Street, there are curb ramps on the south side of the street and corresponding crosswalks across Library Street, but no curb cuts from the crosswalk to sidewalk on the north side of Library Street.*

**4.7.2 Slope.** Slopes of curb ramps shall comply with [4.8.2](#). The slope shall be measured as shown in [Fig. 11](#). Transitions from ramps to walks, gutters, or streets shall be flush and free of abrupt changes. Maximum slopes of adjoining gutters, road surface immediately adjacent to the curb ramp, or accessible route shall not exceed 1:20.

**4.8.2\* Slope and Rise.** The least possible slope shall be used for any ramp. The maximum slope of a ramp in new construction shall be 1:12. The maximum rise for any run shall be 30 in (760 mm) (see [Fig. 16](#)). Curb ramps and ramps to be constructed on existing sites or in existing buildings or facilities may have slopes and rises as allowed in [4.1.6\(3\)\(a\)](#) if space limitations prohibit the use of a 1:12 slope or less. [Appendix Note](#)

*The survey used percentage slopes. A 1/12 slope is 8.33%. A 1/20 slope is 5%.*

*Of the approximately 90 curb ramps with slopes in excess of 8.3%, the worst was at southeast corner of Commerce and Bartlett, with a slope of 19.2%, with a mean slope of 10%.*

*The real problem with the curb ramps was the transition from the ramp to the street or gutter. Then transition is supposed to be flush and free of abrupt transitions. Approximately 3/4 of the ramps had a rolled curb between the ramp and gutter, similar to those in the DASH Parking Areas. The steepest was 33.9% at Lyon and Barclay: the interaction of the slope of then hill with the rolled curb made it very difficult to navigate in a wheelchair. Approximately 317 of the curb ramps had transitions in excess of 2%. The mean slope of the transition was 12%.*

The City of East Grand Rapids has installed new sidewalks and curb ramps in Gas Light Village. The transition between the curb ramps and gutters complaint with the ADAAG.

*Designing Sidewalks and Trails for Access, Part 2, provides:*

#### 7.3.7.1 Impacts of change of grade on people who use wheelchairs

A rapid change of grade, such as what might be found between the base of a curb ramp and the gutter, may be difficult to negotiate because the wheelchair's footrests or anti-tip wheels cannot clear the ground surface. In general, footrests are positioned low to the ground and extend beyond the front casters. Anti-tip wheels are placed on the back of some wheelchairs, behind the rear axle, to improve stability. Both the footrests and anti-tip wheels limit the clearance height of the wheelchair. Clearance may be a particular problem at an abrupt change of grade because the footrests or anti-tip wheels extend beyond the wheelbase of the wheelchair and therefore may contact the surface across the transition point from where the wheels are located.

A further complication associated with severe changes in grade is the increased risk of tipping if the wheelchair user is traveling with speed such as when going down the slope of a curb ramp. If the footrests catch on the ground, the wheelchair will come to an abrupt stop; the forward momentum of the individual and wheelchair is interrupted and can cause the wheelchair user's upper body to fall forward or can cause the user and the wheelchair to tip forward.

If the user moves quickly through the change in grade, without compromising the ground clearance of the wheelchair, the dynamic stability of the wheelchair may still be compromised. Dynamic stability can be compromised because the momentum of the wheelchair will rotate backwards as the wheelchair climbs up the gutter slope. If there is a

severe change in grade, this may cause the wheelchair to tip over backwards. Any amount of height transition such as lips between the curb ramp and the gutter can further contribute to the stability problems experienced by wheelchair users (Section 7.3.8).

### 7.3.8 Transition height

Transition points between adjacent curb ramp surfaces should be flush. Even a 13 mm (0.5 in) change in level combined with a change in grade can complicate access for wheelchair users. If the change in grade is significant, a height transition may also increase the likelihood of problems for individuals with balance limitations.

Transition points found within the curb ramp area include:

- Street and gutter;
- Gutter and ramp;
- Ramp and landing; and
- Landing and sidewalk approach.

The two most problematic transition points occur between the street and the gutter and the gutter and the curb ramp. In these situations, it is critical that the combination of change in grade and transition height be minimized. In addition to contributing to a user's dynamic instability, curb ramp lips will also change the angle of the wheelchair, as if the wheelchair were on an increased grade. **For example, if a ramp is designed with an 8.3 percent slope and has a 19 mm (0.75 in) lip at the bottom of the ramp, the actual grade the wheelchair user has to negotiate is 11.6 percent. Curb ramp lips are not allowed by ADAAG.** *Emphasis added.*

*The rolled curbs provide obstacles to those with blindness and vision impairments as well. Then Association for the Blind and Visually Impaired teaches people to use their cane when stepping off a curb. The cane is placed at the intersection of the curb and street in a vertical position. The person walks up until their cane touches their body and then step down. The rolled curbs are confused for regular curbs, and their foot land on the rolled curb, causing imbalance. In wet or icy conditions, the situations is worse.*

*In effect, the rolled curb between the ramp and the gutter becomes a curb to many individuals with disabilities.*

The City of Ypsilanti recently settled a lawsuit due to its noncompliance with the ADAAG, in part due the “rolled curbs”, among other issues. A copy of an article in The Detroit News published on December 19, 2005 about several law suits in this issue is attached here to as Appendix E. A copy of the complaint filed in the referenced law suit is attached hereto as Appendix F.

**4.7.3 Width.** The minimum width of a curb ramp shall be 36 in (915 mm), exclusive of flared sides.

*In there survey area there was complete compliance with the ramp width requirement.*

**4.7.4 Surface.** Surfaces of curb ramps shall comply with [4.5](#).

*The requirements for the ramps as the same as for them sidewalks: they must be firm, stable and slip resistant. Other than in areas, such as Commerce, between Williams Alley and Wealthy, where the sidewalks and curbs have serious overall deterioration, a sidewalk maintenance program should resolve the issues.*

**4.7.5 Sides of Curb Ramps.** If a curb ramp is located where pedestrians must walk across the ramp, or where it is not protected by handrails or guardrails, it shall have flared sides; the maximum slope of the flare shall be 1:10 (see [Fig. 12\(a\)](#)). Curb ramps with returned curbs may be used where pedestrians would not normally walk across the ramp (see [Fig. 12\(b\)](#)).

*Curb returns were only used where people would not walk across them. The City had complete compliance on that portion of the ADAAG requirement.*

*Many of the flared sides exceeded the 10% slope requirement. This was the measurement subject to the most variation between individual members of the survey team since each member had to judge where to take the measurement. Most flared sides did have a point where the slope was less than 10% further from the street.*

**4.7.6 Built-up Curb Ramps.** Built-up curb ramps shall be located so that they do not project into vehicular traffic lanes (see [Fig. 13](#)).

*There were no violations of this section of the ADAAG.*

**4.7.7 Detectable Warnings.** A curb ramp shall have a detectable warning complying with [4.29.2](#). The detectable warning shall extend the full width and depth of the curb ramp.

*The enforcement of this section of the ADAAG was delayed until 2002. In addition the truncated domes only should extend 24” from the curb.*

*The ADAAG requires 24” strip of truncated domes, that contrast with adjacent surfaces, across the entire width of curb ramps to alert those with blindness or visual impairments that they are about to cross a vehicular traffic lane (except driveways.) The truncated domes act as a stop sign.*

*The truncated domes are being installed as sidewalks are replaced; however there is a significant problem with the installation: they are supposed to contrast visually with the adjacent surfaces. The contrast is to be an integral part of the material, not painted after the fact. In the survey area virtually all of the truncated domes were merely stamped into the wet concrete, without any contrast with the adjacent surfaces, or painted afterwards.*

*The City of Grand Rapids is installing detectable warning by having truncated domes pressed into the concrete. After a year or two, snow removal plus wear and tear, are wearing down the domes. Stamping the domes into the concrete means they will have to be replaced every few years.*

*There are many systems to install truncated domes, other than pressing the domes into the concrete. A search of the internet provides many options, other than pressing the truncated domes into the concrete.*

*The Association for the Blind and Visually Impaired prefers the yellow tiles that can be laid into the concrete. The truncated domes hold up. Only 2% of those with vision impairments are totally blind: the yellow contrasts sufficiently with most sidewalk materials to help those individuals.*

**4.7.8 Obstructions.** Curb ramps shall be located or protected to prevent their obstruction by parked vehicles.

*There were 9 instances of curb ramps being obstructed by parked vehicles while the survey teams were surveying a particular area. This was not due to the location of the*

ramp, nor could there have been better protection. The solution appears to be enforcement of the City of Grand Rapids' parking ordinances.

**4.7.9 Location at Marked Crossings.** Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides (see [Fig. 15](#)).

*The areas where the crosswalks were not whole contained within crosswalks were in older area or where sidewalks and curb ramps have been upgraded but the crosswalks predate the improvements to the curb ramps. See Section 13.2 for a full explanation of the importance of this requirement.*

**4.7.10 Diagonal Curb Ramps.** If diagonal (or corner type) curb ramps have returned curbs or other well-defined edges, such edges shall be parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have 48 in (1220 mm) minimum clear space as shown in [Fig. 15\(c\)](#) and [\(d\)](#). If diagonal curb ramps are provided at marked crossings, the 48 in (1220 mm) clear space shall be within the markings (see [Fig. 15\(c\)](#) and [\(d\)](#)). If diagonal curb ramps have flared sides, they shall also have at least a 24 in (610 mm) long segment of straight curb located on each side of the curb ramp and within the marked crossing (see [Fig. 15\(c\)](#)).

There are three separate elements in this particular requirement.

- If diagonal curb ramps have return curbs or other well defined edges, they must be parallel to the direction of pedestrian flow. This is to provide an additional cue to people with vision problems so they can align themselves perpendicular to the street. *Most diagonal curb ramps have flared sides, so this section does not apply. Those curb ramps that have curb returns are in compliance with this section.*
- At diagonal curb ramps, there is to be a 48" clear space in the street. If there are crosswalk markings, this clear area must be within the crosswalk markings. This is very important since a person using a wheelchair or other ambulation device is actually in their path on oncoming traffic before they pivot and proceed along the typical pedestrian route. See section 13.2 below. *Newer crosswalk markings generally comply with this requirement.*
- If diagonal curb ramps have flared sides, they shall also have at least a 24" long segment of straight curb located on each side of the curb ramp and within the marked crossing.

This is important to those with blindness and visual impairments. It allows the person to use the curb to align themselves to cross the street. In intersections, the necessary segment aligns with the marking where vehicles are supposed to stop, not the crosswalk. *There was virtually no compliance with this section of the ADAAG. Section 2.2 of the AGAAG provides for other designs and technologies where they will provide substantial greater or equivalent access and usability. Accessible pedestrian signals include an audible component that would provide equivalent facilitation and are mandated in certain instances under the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21). See the web site [www.walkinginfo.org](http://www.walkinginfo.org) for excellent information on the information needed for a person with blindness to cross a street, the current status of TEA-21, and state of the APS technologies.*

**4.7.11 Islands.** Any raised islands in crossings shall be cut through level with the street or have curb ramps at both sides and a level area at least 48 in (1220 mm) long between the curb ramps in the part of the island intersected by the crossings (see [Fig. 15\(a\)](#) and [\(b\)](#)).

*Medians within the Project Area have the required area of refuge to accommodate wheelchairs and people using other mobility aids. There was full compliance with this section of the ADAAG, however the curb ramps to and from the area of refuge suffered the same problem with the transition between the curb ramp and gutter as other curb ramps.*

## **13.2 Curb Ramp- Best Practices**

*There are several types of curb ramps. The City of Grand Rapids seems to have had a strong preference for diagonal curb ramps, with ramps that boarder on a depressed corner. Newer construction seem to be a blend of diagonal curb ramps and perpendicular curb ramps.*

*Designing Sidewalks and Trails for Access, Part 2, provides,*

In many situations, diagonal curb ramps are not recommended. Diagonal curb ramps force pedestrians descending the ramp to proceed into the intersection before turning to the left or right to cross the street. This problem is worse at intersections with a tight turning radius and without on-street parking because wheelchair users are exposed to moving traffic at the bottom of the curb ramp. Furthermore, diagonal curb ramps can make it more difficult for individuals with vision impairments to determine the correct crossing location and direction.



When designed to promote access, diagonal curb ramps include at least 1.22 m (48 in) of clear space at the bottom of the curb ramp. However, providing 1.22 m (48 in) of clear space is often not possible at intersections with tight turning radii without exposing the pedestrian to vehicular traffic. In addition, the clear space should be level with a slope that is not more than 2.0 percent in any direction. The level area is necessary so users are not required to turn on a sloped surface. For existing facilities, designing a level landing at the bottom of a curb ramp is difficult because the cross slope of the gutter and the roadway usually exceed 2.0 percent. Limiting the slope of the gutter and roadway to 2.0 percent may interfere with the proper operation of drainage structures and will complicate street resurfacing. If creating level landings is too difficult or a 1.220 m (48 in) clear space cannot be provided, diagonal curb ramps should not be considered.

The following lists summarize the advantages and disadvantages of diagonal curb ramps:

### **Advantages of diagonal curb ramps**

- Require less space because there is only one curb ramp per corner;
- Are less expensive for alterations because there is only one curb ramp per corner; and
- Allow a pedestrian's normal path of travel to intersect a curb rather than a curb ramp, which enhances detectability of the intersection by people with vision impairments who use the curb to identify the transition from the sidewalk to the street. Street furniture and vegetation should be kept out of this area. *(This statement is not true as curb ramps are designed in Grand Rapids since the ramps are almost depressed corners)*

### **Disadvantages of diagonal curb ramps**

- Put pedestrians into a potential area of conflict with motorists who are traveling straight and turning;
- Require turning at the top and bottom of the ramp;
- Provide no alignment with the proper crossing direction, which is difficult for most people with disabilities;
- Make the essential level maneuvering area difficult to achieve at the bottom of the curb ramp; and
- Can cause a person with a vision impairment to mistake a diagonal curb ramp for a perpendicular curb ramp and unintentionally travel

into the middle of the intersection due to the lack of, or ambiguous, audible cues from the surge of traffic.

*For these reasons, Disability Advocates of Kent County strongly encourages looking at other types of designs for curb ramps. If anyone believes the expense of alternatives outweighs the advantages, a representative from Disability Advocates would be delighted to meet with the person and have them cross a busy street at a busy intersection, at 4 PM in a wheelchair; the surge of oncoming traffic while you are in the traffic lanes negotiating a turn to get in the crosswalk is terrifying.*

*The curb ramps along Monroe Center show thought and foresight. If the traffic signals had an audible component, the corners would be useable and accessible to most people.*

### **13.3 Pedestrian Controlled Traffic Signals**

Pedestrian controls of traffic signals are governed by the following provisions of the ADAAG. This section the ADAAG is one where those people not familiar with ask “plain English please.” The traffic control button should be adjacent to an accessible route and no more than 48” high. The button must be operable with one hand and not require more than 5 pounds of force.

The ADAAG does not require tactile arrows indicating which street the pedestrian control device affects. However, they are extremely important to those who have blindness or a vision impairment. *Those with sight have environmental clues to help them know which street is controlled by a pedestrian controlled traffic control signal. In the survey area, there were no tactile signs on the pedestrian controlled devices.*

#### **4.27 Controls and Operating Mechanisms.**

**4.27.1 General.** Controls and operating mechanisms required to be accessible by [4.1](#) shall comply with 4.27.

**4.27.2 Clear Floor Space.** Clear floor space complying with [4.2.4](#) that allows a forward or a parallel approach by a person using a wheelchair shall be provided at controls, dispensers, receptacles, and other operable equipment.

**4.27.3\* Height.** The highest operable part of controls, dispensers, receptacles, and other operable equipment shall be placed within at least one of the reach ranges specified in [4.2.5](#) and [4.2.6](#).

#### **4.2.4\* Clear Floor or Ground Space for Wheelchairs.**

**4.2.4.1 Size and Approach.** The minimum clear floor or ground space required to accommodate a single, stationary wheelchair and occupant is 30 in by 48 in (760 mm by 1220 mm) (see [Fig. 4\(a\)](#)). The minimum clear floor or ground space for wheelchairs may be positioned for forward or parallel approach to an object (see [Fig. 4\(b\)](#) and [\(c\)](#)). Clear floor or ground space for wheelchairs may be part of the knee space required under some objects.

**4.2.4.2 Relationship of Maneuvering Clearance to Wheelchair Spaces.** One full unobstructed side of the clear floor or ground space for a wheelchair shall adjoin or overlap an accessible route or adjoin another wheelchair clear floor space. If a clear floor space is located in an alcove or otherwise confined on all or part of three sides, additional maneuvering clearances shall be provided as shown in [Fig. 4\(d\)](#) and [\(e\)](#).

**4.2.4.3 Surfaces for Wheelchair Spaces.** Clear floor or ground spaces for wheelchairs shall comply with [4.5. Appendix Note](#)

**4.2.5\* Forward Reach.** If the clear floor space only allows forward approach to an object, the maximum high forward reach allowed shall be 48 in (1220 mm) (see [Fig. 5\(a\)](#)). The minimum low forward reach is 15 in (380 mm). If the high forward reach is over an obstruction, reach and clearances shall be as shown in [Fig. 5\(b\)](#). [Appendix Note](#)

**4.2.6\* Side Reach.** If the clear floor space allows parallel approach by a person in a wheelchair, the maximum high side reach allowed shall be 54 in (1370 mm) and the low side reach shall be no less than 9 in (230 mm) above the floor ([Fig. 6\(a\)](#) and [\(b\)](#)). If the side reach is over an obstruction, the reach and clearances shall be as shown in [Fig 6\(c\)](#). [Appendix Note](#)

**4.27.4 Operation.** Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbf (22.2 N).

## **13.4 Crosswalks**

Crosswalks need to meet the same criteria as sidewalks since they are a part of the pedestrian path of travel. Due to safety considerations, as detailed a survey of the crosswalks was not completed. *The worst problems are indicated in the database.*

*In making street repairs, making sure the repaired area is level with the street is the main consideration, as well as repairing potholes.*

*At the northeast corner of Scribner Avenue and the US 131 service drive, the pavement has heaved so badly a wheelchair cannot leave the sidewalk to cross the street, without someone to help prevent the chair from tipping over. Several intersections currently under construction also had that problem. Monitoring the street at intersection heavily used by trucks is a key to maintaining ADAAG compliance.*

## **14. Best Practices-Way finding**

### **14.1 Diagonal Crosswalks**

*Crosswalks that are not perpendicular to both sides of the street pose a special problem for people with vision problems. They may start crossing a street and not reach the other side: instead they walk down the middle of a street. On the north side of Fulton, opposite the southbound lane of Ottawa there is a crosswalk that connects with the southwest corner of Ottawa and Fulton. A person who cannot see the crosswalk could travel straight across Fulton and proceed to walk down Ottawa Avenue in the traffic lanes. Accessible pedestrian traffic signals would help resolve this dangerous situation.*

### **14.2 Open Areas- Way Finding Strips**

Way finding strips are a 18” strip in the middle of a path of travel with a different texture, detectable by a person with blindness’s cane. They allow a person to travel

through open areas along the path of travel. *Areas where people can lose orientation includes plazas, such as Calder Plaza, and along areas Campau Avenue where there are 5 contiguous driveways and alleys, without any buildings in between.*

### **14.3 Closed Sidewalks**

*Several sidewalks on the Westside were closed or incomplete near Bridge Street. There were no warnings. There are no crosswalks until one backtracks to Lake Michigan Drive. For people with vision problems, they cannot jay-walk across a driveway. There should be a warning before the segment of sidewalk that does not connect to another sidewalk. It should be substantial, hard to displace, and contain a button with audible information and suggested detours.*

## **15. Overview of survey area & needed remedial action**

Below is a list of the most essential remedial actions needed to bring the specific problems up to ADAAG standards in each area surveyed. Safe passage by the most people was the standard used. It is not an exhaustive list, but it would facilitate access in the area.

### **15.1 Center City**

1. Most inaccessible Street: Campau Avenue. See Section 9.
2. Sidewalk needing immediate repair: Michigan Street overpass, Pearl Street Bridge, Bridge Street Bridge, Fulton Bridge
3. Out door dining areas: enclose in fences with rails
4. Install handicapped parking in the BOB parking area, near the entrances.
5. Bring accessible parking in DASH Parking Area 1 up to ADAAG standards.

### **15.2 WestSide**

1. On the northeast corner of Scribner and US 131 service drive, repair buckled pavement and deteriorated curb.
2. Revise curb ramps along Lake Michigan Drive and in DASH Parking areas to remove transitions, so curb ramp flush with gutter.
3. Replace east end of Bridge Street Alley where it intersects sidewalk

4. Install devices on the railroad tracks to fill gaps on Bridge Street and Lake Michigan Drive.
5. Install crosswalk markings at traffic signals along Lake Michigan Drive
6. Replace sidewalks on the north side of Bridge Street.

### **15.3 HeartSide**

1. Rebuild Commerce Avenue, south of Cherry Street, including curb ramps.
2. Rebuild Grandville, south of Cherry Street, making sure street is flush with the curb ramps and install curb ramps where needed.
3. Wealthy Street, replace curb ramps with ADAAG compliant curb ramps.
4. Install sign before Wealth Street overpass that it is not on an accessible route.
5. Jefferson Avenue, Repair sidewalks and built new curb ramps on the west side.

### **15.4 HillSide**

1. Install signs on at the top and bottom of Michigan Street and Crescent Street warning of steep grades and suggesting alternative routes.

## **16. Suggested Remedial Actions**

There may be recourse against contractors and design professional who were responsible for compliance with then ADAAG. Areas that were renovated after the ADAAG were effective should comply with the ADAAG. There is no provision for a “transition plan” for noncompliant work.

ADA educational material are readily available for use by City staff .

All areas that have an impact on ADA compliance need to pay attention to the ADAAG requirements.

Those involved with curb ramp design, construction, and inspection should visit Gas Light Village in East Grand Rapids as an example of curb ramps and transitions that meet the ADAAG requirements.

## **17. Summary**

The City of Grand Rapids deserves credit for attempting to comply with the Americans with Disabilities Act. To the casual observer without a disability, the survey area looks friendly to people with disabilities. To those people with disabilities who use the pedestrian circulation elements, it is a far different story. If the Downtown Development Authority desires to maximize the potential to attract conventions and employers desiring a diverse work force, including people with disabilities, meeting the minimum ADAAG requirements and going further, by following best practices, will help achieve those goals.

## **Appendix A**

### **Project Area**

Commencing at the northeast corner of Bridge Street and Seward Avenue,  
East along the north side of Bridge Street to the east side of US 131,  
Continuing East along the North side of Michigan Street to the east side of Barclay Avenue,  
South on the east side Barclay Avenue to the north side of Lyon Street,  
East along the north side of Lyon Street to the line formed by extending Barclay Avenue between Fulton Street and John Street north to Lyon Street,  
South along the line formed by extending Barclay Avenue between Fulton Street and John Street north to Lyon Street ,  
South along the east side of Barclay Avenue between John Street and Fulton Street to Fulton Street,  
West along the south side of Fulton Street to Jefferson Avenue,  
South along the east side of Jefferson Avenue to Wealth Street,  
West along the south side of Wealthy Street to Grandville Avenue,  
North along the west side of Grandville Avenue to US 131,  
Northwesterly along the south side of US 131 to Lake Michigan Drive,  
West along the south side Lake Michigan Drive to Seward Avenue,  
North along the east side Seward Avenue to Bridge Street.



## **Parking lots to be surveyed:**

West of the Grand River:

- Lot off of Winter, between the Grand Rapids Fire Department and Ferris Coffee & Nut
- Dash Areas 7 & 9
- Dash Area 8, not reserved for the YMCA

East of the Grand River, Heartside Area:

- Dash Area 1,2,3,4,5,6, & 6a

East of the Grand River, Center City:

- Lot off of Ottawa, between the BOB & 50 Monroe Place

## Appendix B

### **The Americans with Disabilities Act (ADA) of 1990**

The ADA, a major civil rights law prohibiting discrimination on the basis of disability, establishes design requirements for the construction or alteration of facilities. It covers facilities in the private sector (places of public accommodation and commercial facilities) and the public sector (state and local government facilities). Under the ADA, the Board is responsible for accessibility guidelines covering newly built and altered facilities. In 1991, the Board published the ADA Accessibility Guidelines (ADAAG) which serve as the basis for standards used to enforce the law. The new guidelines overhaul the original ADAAG.

### **The Architectural Barriers Act (ABA) of 1968**

The ABA requires access to facilities designed, built, altered, or leased with Federal funds. Similar to its responsibility under the ADA, the Board maintains guidelines under the ABA which serve as the basis for enforceable standards. The Board has updated its guidelines for ABA facilities jointly with the new ADA guidelines so that a consistent level of access is specified under both laws.

### **How the New Guidelines Were Developed**

The Board develops and updates its guidelines under a process common to most Federal regulations which provides an opportunity for public comment. In order to get input from a cross section of stakeholders at the outset of this update, the Board established an advisory committee to review the original guidelines and to recommend changes. The ADAAG Review Advisory Committee, which consisted of 22 members representing the design and construction industry, the building code community, and people with disabilities, among others, submitted a report to the Board that detailed recommended revisions to the substance, organization, and format of the guidelines. The finalized guidelines are based largely on these recommendations. The Board published the guidelines in proposed form in November, 1999 and made them available for public comment for six months. During the comment period, the Board held public hearings in Los Angeles and the Washington, D.C. area. The Board received over 2,500 public comments on its proposal and finalized the guidelines based on its review of these comments.

### **Goals of this Update**

Key goals of this update include:

- updating specifications so that they continue to meet the needs of persons with disabilities
- improving the format and usability of the guidelines to facilitate compliance
- harmonizing the guidelines with model building codes and industry standards
- making the requirements for ADA and ABA facilities consistent

### **Harmonization with Model Building Codes and Industry Standards**

Through this update, the Board sought to make its guidelines more consistent with model building codes and industry standards in order to make compliance easier. It coordinated extensively with model code groups and standard-setting bodies so that differences could be reconciled. In particular, the Board sought to harmonize the guidelines with the International Building Code (IBC) and access standards issued through the American National Standards Institute (ANSI). Used by a growing number of states and local jurisdictions, the IBC contains scoping provisions for accessibility. The ANSI A117.1 standard, a voluntary consensus standard,



provides technical criteria referenced by the IBC. A number of revisions were made to the guidelines for consistency with these and other model codes and standards. In addition, the Board worked to resolve remaining differences by advocating changes to the IBC and the ANSI A117.1 standard based on the new guidelines.

### **When will the new guidelines take effect?**

The Board's guidelines are not mandatory on the public, but instead serve as the baseline for enforceable standards (which are) maintained by other Federal agencies. In this respect, they are similar to a model building code in that they are not required to be followed except as adopted by an enforcing authority. Under the ADA, the Department of Justice (and in the case of transit facilities, the Department of Transportation) are responsible for enforceable standards based on the Board's guidelines. These agencies will update their ADA standards based on the new guidelines. In doing so, they will indicate when the new standards are to be followed. Several other agencies (the General Services Administration, Department of Defense, Department of Housing and Urban Development, and the U.S. Postal Service) hold a similar responsibility for standards used to enforce the ABA.

### **Existing Facilities**

The ADA and ABA guidelines cover new construction and planned alterations and generally do not apply to existing facilities except where altered. Facilities built or altered according to earlier versions of the ADA or ABA standards will not necessarily have to meet the updated version except where they are subsequently altered or renovated. The Department of Justice, which regulates requirements for existing facilities under the ADA, intends to address coverage of facilities built or altered according to the original ADA standards in its rulemaking to update the standards. It will also address facilities retrofitted under ADA provisions for existing facilities, such as the requirement for barrier removal in places of public accommodation. With respect to ABA facilities, the Board has clarified in the guidelines that facilities built to earlier ABA standards are subject to the new requirements only in relation to planned alterations.

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### **Organization and Format**

The updated guidelines feature:

- a new numbering system consistent with model codes
- a more streamlined structure and organization of chapters
- updated scoping and technical provisions, with a greater structural delineation between them
- new figures and commentary (advisory information)
- provision of all figure-based information in written text

### **A Rule in Three Parts**

The Board coordinated its update of the ADA and ABA guidelines into a single rule. The final rule contains updated scoping provisions, which specify what has to be accessible, and technical requirements, which spell out how access is achieved. It contains three parts: a scoping document for ADA facilities (Part I), a scoping document for ABA facilities (Part II), and a common set of technical criteria referenced by both scoping documents (Part III).

**Supplements to ADAAG**

The Board previously developed supplements to the original ADA guidelines that are specific to different types of facilities and elements:

- state and local government facilities, including courthouses and prisons (1998)
- building elements designed for children's use (1998)
- play areas (2000)
- recreation facilities (2002)

These supplements are included in the new guidelines. They have been revised for consistency with the format and approach of the new document, but their substance remains unchanged.

## Lawsuits force cities to improve curbs

Ann Arbor, Monroe are among communities sued for not leveling crosswalks with sidewalks.

Marisa Schultz / The Detroit News

Even getting around town in a wheelchair is tough in many cities.

That's because curb cuts -- which connect crosswalks with sidewalks -- are not level, or they are deteriorating or too steep, making it nearly impossible for someone in a wheelchair to get up on the sidewalk.

Ann Arbor, Ypsilanti and Monroe were recently sued for improper curb cuts by the Center for Independent Living in Ann Arbor, which assists people with disabilities to live productively. Ironically, Ann Arbor has one of the lowest rates of disabilities among cities with at least 100,000 people, with just slightly more than one in 10 people living with a disability. Detroit was similarly sued by the Michigan Paralyzed Veterans of America.

Ann Arbor, as a result of the lawsuit, agreed to make future curb ramps accessible and survey its older ramps to see if they are up to code. Monroe also agreed to fix its curb ramps and make city parks, sidewalks and parking lots accessible.

Debbie Manns, city manager of Monroe, said the city is on schedule to comply in eight years, the time period allowed in the settlement.

Accessibility "is the right thing to do in all levels of government," said Manns, who wasn't working for the city when it was sued.

The lawsuits against Detroit and Ypsilanti are ongoing.

Edward Koryzno, city manager of Ypsilanti, says city streets already comply with ADA requirements.

"We believe the engineers designed them up to code," he said.

The problem with uneven sidewalks and curb cuts is that wheelchair users can fall out of their chairs. The simple task of going to the grocery store may be off-limits to someone in a wheelchair if the sidewalks to the store are out of compliance.

"Very often, it's a problem caused by lack of oversight, not by lack of desire," said Jim Magyar, president and CEO of the Center for Independent Living.

Curb ramps are "about as basic as engineering gets," Magyar added.

"This isn't a grand 30-story high-rise. This is a crosswalk. It requires the use of a level and some common sense."

Appendix F

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF MICHIGAN

ANN ARBOR CENTER FOR INDEPENDENT	)	Case No:
LIVING; INC.; JOYCE LYKE, and	)	
MAURICE L. JORDAN, on behalf of	)	
themselves and all others similarly situated,	)	
	)	HONORABLE
Plaintiffs,	)	
	)	
v.	)	MAGISTRATE
	)	
CITY OF YPSILANTI, MICHIGAN,	)	
	)	CLASS ACTION
Defendants.	)	COMPLAINT

\*\*\*\*\*

J. Mark Finnegan (P68050)  
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\*\*\*\*\*

**Preliminary Statement**

1. The City of Ypsilanti, Michigan is not readily accessible to its citizens with disabilities. Among other things, Ypsilanti’s sidewalks and intersections are not safe for people using wheelchairs who are sometimes forced to travel in the streets.

2. During the last several years, Ypsilanti has mis-spent millions of federal, state and local taxpayer dollars resurfacing or otherwise altering new sidewalks and street intersections, by failing to build curb ramps according to federal and Michigan accessibility building guidelines

and standards. Because Ypsilanti has failed to meet minimum accessibility standards, citizens with disabilities are denied access to Ypsilanti's structures, and facilities, services, programs or activities, and must risk serious injury attempting to traverse the City.

3. Beginning in 1973, under Section 504 of the Rehabilitation Act, ("the Rehab Act") Congress has directed cities, including Ypsilanti--when receiving receive federal money to build or to repair streets, sidewalks, bridges, buildings, parking lots, or any other service, program or activity, each such structure must meet detailed disability accessibility construction guidelines and standards codified in the Uniform Federal Accessibility Standards. In 1976, Michigan passed a virtually identical law, except of course that it did not require a City to receive federal money. At the same time, Michigan law required that each service, program or activity, each such structure must meet detailed disability accessibility construction guidelines and standards that mirrored those set forth in the Uniform Federal Accessibility Standards.

4. Later, in 1990 with the Americans With Disabilities Act (ADA), Congress strengthened the law, ordering cities, including Ypsilanti, to meet these same detailed disability accessibility construction guidelines, even if Ypsilanti did not use federal money when it built or repaired streets, sidewalks, bridges, buildings, parking lots, or any other services, programs or activities.

5. Ypsilanti has acted with deliberate and callous disregard of federal and Michigan laws, and has consistently failed despite notice to ensure that newly constructed and reconstructed sidewalks and intersections are built to meet required minimum accessibility guidelines and standards. Ypsilanti continues to ignore repeated attempts to educate it about its failures to meet federal and state requirements. Plaintiffs repeatedly have given the City of Ypsilanti in person as well as written evidence of dangerous sidewalks and curb ramps, but



Ypsilanti has not repaired any of the defects, and has even continued to built new defective sidewalks and curb ramps.

6. Ypsilanti has engaged in a continuing pattern and practice of overarching discrimination against Plaintiffs and class members beginning at least fifteen years ago and continuing to the present.

7. Reluctantly, Plaintiffs have been forced to file this class action lawsuit to seek court intervention to force Ypsilanti to live up to its federal and Michigan mandated duties to ensure accessibility to its citizens with disabilities. Plaintiffs each have disabilities involving mobility, or are otherwise harmed by Ypsilanti's pattern and practice of discriminating against people with disabilities. Some of the plaintiffs have lived their entire lives in Ypsilanti, while some of the plaintiffs recently moved to or traveled throughout Ypsilanti.

8. Plaintiffs seek the court to order Ypsilanti to retrofit its intersections and sidewalks to make them readily usable and safe for people with disabilities. Plaintiffs also ask the court to order Ypsilanti to put into place a detailed system to ensure that Ypsilanti complies with all federal and Michigan law in the future, so that new construction and repairs will ensure mandated access for people with disabilities. Additionally, Plaintiffs seek an order requiring Ypsilanti to modify its services, programs and activities to ensure their accessibility by individuals with disabilities.

## II. JURISDICTION AND VENUE

9. This Court has jurisdiction of plaintiffs claims pursuant to 28 U.S.C. § 1331 and 28 U.S.C. § 1343(a)(3); 29 U.S.C. § 794(a) (Rehabilitation Act); and 42 U.S.C. § 12133 (Title II of the Americans With Disabilities Act);

10. Venue is proper under 28 U.S.C. § 1391(b) because the defendants are located

in the Eastern District and the events and/or omissions giving rise to plaintiffs' claims occurred in the Eastern District.

11. Jurisdiction in Count II is based on this Court's supplemental jurisdiction pursuant to 28 U.S.C. § 1367, because the Michigan State law claims arise out a common nucleus of facts with the federal law claims.

### III. PARTIES

#### A. PLAINTIFFS

12. Ann Arbor Center for Independent Living, Inc., (A.A.C.I.L.) operating in Ann Arbor, Michigan, is a nonprofit Michigan Corporation. Its Board of Directors and staff, composed of a majority of people with disabilities, along with volunteers, was created to assure equality of opportunity, full participation, independent living and economic self-sufficiency of people with disabilities by working to eliminate the attitudinal, environmental and communication barriers that perpetuate acts of discrimination toward people with disabilities, including sight impairment and mobility impairments. The Center has been advocating for and assisting people with disabilities in Southeast Michigan since 1976.

Its mission is to empower people with disabilities, improve the quality, independence, dignity, and control of their lives, as well as to promote a philosophy of independent living, including a philosophy of consumer control, peer support, self-help, self-determination, equal access, and individual and systems advocacy, as well as the integration and full inclusion of individuals with cross disabilities into the mainstream of American society.

13. A.A.C.I.L. has a program of advocacy. It speaks out for the equality and civil rights of people with disabilities. The Center works to teach people with disabilities how to become their own voice using either individual or group advocacy techniques, working with persons in group homes, nursing homes and other institutions who want to relocate into the community

setting of their choice. A.A.C.I.L. conducts business in Ypsilanti. Ypsilanti's failure to ensure that proper curb ramps are installed during resurfacing and other alterations has harmed A.A.C.I.L. and its members. The Center's employees and clients are unable to readily use sidewalks and intersections throughout Ypsilanti. When Ypsilanti corrects in the future these defects, persons with disabilities will use its facilities more and with more safety.

14. Ypsilanti's discrimination is frustrating Ypsilanti's mission. Ypsilanti's mission of making facilities of public entities accessible to people with disabilities has been made more difficult for several reasons. Ypsilanti's discrimination, in and of itself, makes public facilities in Michigan less accessible to people with disabilities. Defendants' discrimination segregates people with disabilities, thereby perpetuating discriminatory attitudes in the public at large. Ypsilanti's discrimination has thus required, and continues to require **Ypsilanti** to make greater effort, and allocate additional resources, to counsel those injured by such discrimination, to educate the public that it is wrong to discriminate against people with disabilities, and otherwise to counteract the adverse impact of discrimination. A.A.C.I.L. has expended and diverted significant resources counseling members how to cope with Ypsilanti's repeated failures to meet ADA and Rehabilitation construction standards. A.A.C.I.L. has also diverted significant resources documenting violations in Ypsilanti and attempting to make Ypsilanti correct its errors.

15. Joyce Lyke and Maurice Jordan each live, work, shop or otherwise travel in and throughout the City of Ypsilanti. Each is a "qualified person with a disability" as defined by the Americans With Disabilities Act, and also under the Rehabilitation Act.

16. Each plaintiff will continue to suffer exclusion from full participation in the grand concourse of life unless and until the court remedies Ypsilanti's continuing, over-arching pattern and practice of discrimination against people with disabilities.

#### B. DEFENDANTS

17. Defendant City of Ypsilanti, Michigan is a municipal corporation authorized under the State of Michigan and is a public entity as that term is defined under 42 U.S.C. § 12131(1); 28 C.F.R. § 35.104. Upon information and belief, the City of Ypsilanti has received and will continue to receive federal funds for purposes of the Rehabilitation Act and for the Civil Rights Restoration Act, 29 U.S.C. § 794(b)(1)(A). Ypsilanti has a continuing and overarching pattern and practice of discriminating against people with disabilities when it builds or repairs city facilities services, programs or activities.

#### IV. FACTS

18. Each Plaintiff has mobility impairments that hamper or prevent walking . Thus, each plaintiff needs proper sidewalks, with curb ramps at all intersections of sidewalks with streets, alleys and other paths. Without proper sidewalks and curb ramps, plaintiffs are unable to readily access business and government facilities and services throughout Ypsilanti.

19. For at least the last 15 years, and continuing to the present, the City of Ypsilanti has engaged in a pattern of building new or altered sidewalks and intersections, without ensuring that those facilities are readily accessible to plaintiffs and class members.

#### **Ypsilanti Has Repeatedly Ignored In Person as Well as Written Proof of Defective Curb Ramps and Sidewalks, and Continues to Build Defective Facilities.**

20. In early 2003, plaintiffs inspected many intersections resurfaced by the City of Ypsilanti during year 2002. Plaintiffs documented that many newly installed curb ramps at these intersections violated federal and Michigan guidelines because the ramps were too steep, were

not flush at the meeting with the street, and/or lacked level landings at the top or bottom of the ramps. In addition, at some of the newly resurfaced intersections, the City had failed to install any curb ramps whatsoever, so that solid curbs prohibited access to the sidewalks at these intersections.

21. Plaintiff Ann Arbor Center for Independent Living, Inc., arranged for a face to face meeting with City Engineer Harry Hutchinson. The meeting took place at the Ypsilanti Engineer's offices in February, 2003. At the meeting, plaintiffs provided copies of the curb ramp accessibility design standards, and Harry Hutchinson and several other City employees jointly with plaintiffs and their agents inspected many of the defective ramps.

22. City Engineer Hutchinson assured plaintiffs and their agents that the City would immediately repair the defective ramps installed during year 2002. He also assured that all intersections resurfaced during year 2003 and thereafter would have curb ramps meeting all ADA/ADAAG standards. Based upon these assurances, A.A.C.I.L. and its agents decided not to file suit, instead deciding to give Ypsilanti the benefit of a doubt.

23. On February 28, 2003, the Paralyzed Veterans of America, Michigan Chapter, wrote Harry Hutchinson a letter, and enclosed United Department of Justice checklists to assist Ypsilanti to ensure that all new curb ramps would meet all federal standards. This PVA Chapter also offered any assistance Ypsilanti might need to ensure compliance.

24. Unfortunately, Ypsilanti continued to resurface intersections, and to repair sidewalks and curb ramps while ignoring all federal and Michigan construction standards. The result is that in the last two years, Ypsilanti has installed hundreds of defective ramps, and left in place hundreds more defective curb ramps throughout the city. To add insult to injury, Ypsilanti also broke its promise to repair the defective ramps installed during year 2002, and jointly inspected by the parties during February 2003—each of those ramps remains the same, nearly two years

later. Plaintiffs have now concluded that the City of Ypsilanti will continue to build illegal curb ramps until a Court intervenes and orders the City to comply with law. Reluctantly, plaintiffs now file suit.

**Some Examples of Ypsilanti's Defective Construction Procedures.**

25. Below are many examples of defects at intersections resurfaced by Ypsilanti during year 2004.

A. Long stretches of road throughout Ypsilanti were resurfaced in 2004, including hundreds of intersections. Many sections of new curb were installed around corners and along the resurfaced street. While some new ramps were installed at many intersections along the resurfaced streets, there is no clear pattern for determining why many old, non-compliant ramps were not retrofitted or replaced. A majority of the new ramps installed in 2004 are not compliant with ADA regulations and have running slopes in excess of 8.33%, cross-slopes exceeding 2%, large rolled curbs creating "lips" at the bottom of the ramps, and lack level landing surfaces at the top of the ramps. Many of the detectable warnings are positioned incorrectly, directing pedestrians into the middle of the intersection instead of into crosswalks. The paint of a contrasting color is already wearing off of a majority of the ramps, and the truncated domes are often broken or worn down.

B. **Pearl Street** was resurfaced from Mansfield St. to S. Huron St. This includes about 13 intersections. We inspected 6 of these intersections.

A. **Pearl St. at Mansfield St.** has 3 new ramps:

- The southeast corner has one north-facing ramp. The ramp has a rolled

curb (2 3/4 inch rise over an 8 inch run). The detectable warning faces into the middle of the intersection and the paint has worn off.

- The northeast corner has a south-facing ramp with a running slope of 11%, a cross-slope of 7% and no level landing (5.5% X 4.4%), and a reverse lip. The detectable warning faces into the middle of the intersection.
- The northeast corner facing west has a running slope of 17%, a cross-slope of 3.9% and no level-landing (5.5% X 4.4%). The paint has worn off the detectable warnings and the truncated domes are worn down in many areas.

**B. Pearl St. at Owendale** has 4 new ramps.

- The northwest corner facing east has a rolled curb (2 inch rise over an 8 inch run).
- The northeast corner facing west a large reverse lip and the truncated domes on the detectable warning are virtually all worn off.
- The southeast corner facing west has a 2 inch reverse lip, a running slope of 9.3%, and the paint is wearing off the detectable warning.
- the southwest corner facing east has a rolled curb (1½ inch rise over a 6 inch run).

**C. Pearl St. at Wallace Blvd.** has 5 new ramps and 3 old ramps.

- The northwest corner facing east is an old ramp and lacks a detectable warning.
- The northeast corner has 2 new compliant ramps facing south and west, but the level landing has disintegrated into rubble.

- The southeast ramp facing north is a old ramp with a 1½ inch reverse lip and another 1½ inch lip before the level landing.
- The southeast ramp facing west is a new ramp with a rolled curb (1½ inch rise over a 5 inch run).
- The southwest corner has one old ramp facing east with no detectable warning.

**D. Pearl St. at Oakwood St.** has 6 new ramps and 2 old ramps.

- The northwest corner facing east has one old ramp with asphalt over a ½ inch rolled curb.
- The northwest corner facing south has a new ramp with the truncated domes and the paint worn off the detectable warning.
- The northeast corner facing west has an old ramp with a 1 inch lip and a 1 inch reverse lip creating a “trough” at the bottom of the ramp.
- The southeast corner facing north has a new ramp with a reverse lip and the paint is worn off the detectable warning.
- The southeast corner facing west has an old ramp with a 2½ inch lip.
- The southwest corner facing east has a new ramp with a 2 inch lip.
- The southwest corner facing north has a new ramp with a ½ inch lip and the detectable warning facing into the middle of the intersection. The paint has worn off the detectable warning.

**E. Pearl St. at Ballard St.** has 3 new ramps crossing Pearl and one old ramp crossing Ballard The entire intersection was resurfaced and new curbs were installed around all the corners. The southeast and southwest corners have new sidewalks to the new curbs, but no ramps were installed crossing Ballard. There



is a ramp for crossing Ballard on the northeast corner, but no answering ramp on the northwest corner where a new solid curb has been installed.

**F. Pearl St. at Hamilton St.** has 5 old ramps.

- The northwest corner facing south has one old ramp with a 2½ inch lip a running slope of 19.7%, a cross-slope of 4.9% and a counter-slope of 8.8% and no level landing (6.2% X 2%).
- The northwest corner facing east has one old ramp with a 1½ inch lip, a reverse lip, a running slope of 16% and a cross-slope of 4.8% and no level landing (6.2% X 2%).
- The southwest corner has no ramps crossing Pearl or Hamilton.
- The northeast and southeast corners 3 have old, steep ramps.

**G. Pearl St. at Washington St.** has 3 new ramps and 5 old ramps. Pearl St. was resurfaced east of Washington and Washington was resurfaced through the intersection.

- The northwest corner has new curbs around the corner. The new east-facing ramp has a running slope of 9% and a cross-slope of 3% and no level landing (5.5% X 9.6%).
- The northwest corner facing south has an old ramp with a 2 inch lip and no level landing (5.5% X 9.6%).
- The northeast corner facing west has a new ramp with a rolled curb (2 inch rise over a 7 inch run).
- The northeast corner facing south has a new ramp with a rolled curb (2½ inch rise over a 9 inch run) and is outside the crosswalk.
- The southeast corner facing north has an old ramp with a 2½ inch solid

curb and no detectable warning.

- The southeast corner facing west has an old ramp with no detectable warning.
- The southwest corner facing east is an old ramp with a rolled lip and no detectable warning.
- The southwest corner facing north has an old ramp with a running slope of 11% and no detectable warning.

3. **Washington St.** was resurfaced from Olive St. to Harriet St. The final layer of asphalt has not been laid from Michigan to Harriet. This resurfacing projects covers 13 intersections. We measured 6 intersections along this stretch. We did not measure the ramps where the resurfacing was not complete, but all the new ramps along this section have rolled curbs that will create lips.

A. **Washington at Olive** is a T-intersection and has 2 new ramps. The paint on the detectable warnings is already partially worn off.

- The northwest corner facing south has a rolled curb (1½ inch rise over a 7 inch run) and a cross-slope of 4%.
- the southwest corner facing north has a rolled curb (2 inch rise over a 8 inch run) a running slope of 9.6%, a cross-slope of 5.1% and no level landing (9.6% X 5.1%).

B. **Washington at Cross** has 4 new ramps and 2 old, diagonal ramps.

- The northwest corner facing south has a new ramp with a rolled curb (1½ inch rise over a 8 inch run) and no level landing (7.0% X 6.5%).
- The northwest corner facing east has a rolled curb (1½ inch rise over a 9 inch run) a cross-slope of 6.5%, no level landing (2.0% X 6.5%) and the

detectable warning faces into the middle of the intersection.

- The northeast corner facing west has a rolled curb (2½ inch rise over a 9 inch run) and a counter slope of 5.3%.
- The northeast corner facing south has a rolled curb (2½ inch rise over a 9 inch run) and the detectable warning faces into the middle of the intersection.
- The southeast corner facing west and north is an old, diagonal ramp. It has a ½ inch lip, a running slope of 11.6%, a cross slope of 6.6% and 8.2%, no level landing, no detectable warning and a counter slope of 9.5%.
- The southwest corner facing north and east is an old, diagonal ramp with a 2 inch lip and a running slope of 9.2%. The ramp is broken and in bad repair.

C. **Washington at Emmet** has 2 new ramps and one old ramp. The entire intersection was resurfaced and new curbs were placed on all but the northwest corner. The paint has worn off all the detectable warnings.

- The northeast ramps facing south has a rolled curb (2 inch rise over a 6 inch run) and a cross slope of 3% and no level landing.
- The southeast corner facing north has a rolled curb (2 inch rise over a 6 inch run).
- The southwest corner facing north has a new curb but no new ramp. It has a 1 inch lip, a cross slope of 3.5% and no level landing (6% X 3.5%). There is no answering ramp on the northwest corner.
- The northwest corner has no ramp.

D. Washington at Washtenaw has 5 new ramps.

- The southwest corner facing east and north is a new diagonal ramp with a running slope of 11.1%, a counter slope of 4.2% and no level landing (3.7% X 4.2%). The ramp has a counter slope of 11.5%.

B. **Washington at Pearl** has 3 new ramps and 5 old ramps. Pearl has been resurfaced on the east side of the intersection.

- The northwest corner facing east is a new ramps with a running slope of 9% and a cross-slope of 3% and no level landing (5.5% X 9.6%).
- the northwest corner facing south is an old ramp with a 2 inch lip and no level landing (5.5% X 9.6%). There is a new curb around this corner.
- The northeast corner facing west is a new ramp with a rolled curb (2 inch rise over a 7 inch run).
- The northeast corner facing south is a new ramps has a rolled curb (2½ inch rise over a 9 inch run). The ramp is outside the sidewalk.
- The southwest corner facing north is an old ramp with a 2½ inch lip that is more like a solid curb, and no detectable warning.
- The southwest corner facing east is an old ramp with no detectable warning.
- The southwest corner facing east is an old ramp with a running slope of 11% and no detectable warning.
- The southwest corner facing north is an old ramp with a rolled curb lip and no detectable warning.

F. **Washington at Harriet** is a T-intersection with 2 new ramps.

- The northwest corner facing south is a new diagonal ramp with a rolled

curb (2 inch rise over a 8 inch run), a cross slope of 8.2% and no level landing. The is no answering ramp on the southwest corner.

- The northeast corner is a new ramp with a 2 inch straight lip, a running slope of 9.6%, no level landing and a counter slope of 5.6%.

4. **Owendale St** was resurfaced from Cross St. to N. Congress St. This resurfacing project covers 6 intersections.

A. **Owendale St. at Cross St.** has a new ramp on the southeast corner facing west with a running slope of 10% and no level landing.

B. **Owendale at Westmoreland** has 8 new ramps.

- The northwest corner facing east has a rolled curb (1 inch rise over a 6 inch run) and no level landing (7.3% X 6.6%).
- The northwest corner facing south has a rolled curb (1 inch rise over a 6 inch run) and a running slope of 8.6% and no level landing (7.3% X 6.6%).
- The northeast corner facing west has a has a 3 inch lip.
- The northeast corner facing south has a 4 inch lip.
- The southeast corner facing north has a rolled curb (2 inch rise over a 6 inch run), no level landing (2% X 7.9%) and flared sides of 30%.
- The southeast corner facing west has a rolled curb (2 inch rise over a 6 inch run) and no level landing (2% X 7.9%).
- The southwest corner facing east has a rolled curb (2 inch rise over a 6 inch run) and no level landing (1.7% X 8.9%).
- The southwest corner facing north has a rolled curb (4 inch rise over a 6 inch run) and no level landing (1.7% X 8.9%).

C. **Owendale at Sherman** has 6 new ramps. The paint on the detectable warnings

is wearing off.

- The northwest corner facing east has a slight rolled lip and a cross slope of 3.2% and no level landing (2.4% X 8.1%).
- The northwest corner facing south has a rolled curb (1½ inch rise over a 6 inch run), a cross slope of 6.1% and no level landing (6.8% X 4.9%).
- The northeast ramps facing west and south is a diagonal ramp with a cross slope of 3.9% .
- The southeast corner facing north and west is a diagonal ramp has a rolled curb (2 inch rise over a 6 inch run) and a cross slope of 5%.
- The southwest corner facing north has a rolled curb (1½ inch rise over a 6 inch run), a cross slope of 3.1% and no level landing (4.6% X 4.1%).
- The southwest corner facing east has a cross slope of 3.6% and no level landing (4.6% X 4.1%).

D. **Owendale at Grant** has 5 old ramps and 2 new ramps. The entire intersection was resurfaced.

- The northwest corner facing east has no level landing (7.7% X 2.6%).
- The northwest corner facing south is scooped and is less than three feet wide at the top. The sides are steeply flared (22.6%), the running slope is 9.5%, the cross slope is 8.5% and there is no level landing (7.7% X 2.6%). It has no answering ramp on the southwest corner.
- The northeast corner facing west has a ½ inch reverse lip.
- The northeast corner facing south has a cross slope of 3%. This corner has new curbs and old ramps.
- The southeast corner facing west has a new ramps with a rolled curb (3

inch rise over a 9 inch run) and a cross slope of 4.8%.

- The southeast corner facing north has a new ramp with a rolled curb (2½ inch rise over a 4 inch run), a direct slope of 8.7% and a cross slope of 3%.
- The southwest corner facing east is an old ramp with a running slope of 16% and a cross slope of 4.3%.
- The southwest corner facing north is without a ramp.

E. **Owendale at Congress** was entirely resurfaced there are no new ramps and 6 old ramps.

- The northwest corner facing south has a running slope of 11%, a cross slope of 5.2% and no level landing (4% X 2%).
- The northwest corner facing east has a running slope of 9.1% and no level landing (4.0%X 2%).
- The northeast corner facing west has a direct slope of 13.8%.
- The southeast corner facing west has a ½ inch reverse lip and a running slope of 10%.
- The southwest corner facing north has a running slope of 10% and a cross-slope of 4.7%.
- The southwest corner facing east has a running slope of 9.2% and a cross slope of 3.8%.

5. **Sherman, Grant, and Congress** streets were resurfaced in 2004 and I measured the ramps where these street intersect with Mansfield St. I also measured the intersection of Congress and Wallace which was resurfaced in 2004.

- A. **Mansfield at Sherman** has 2 new ramps. The paint has worn off the detectable warnings and both detectable warning facing into the middle of the intersection.
- The northeast corner facing south has a rolled curb, a running slope of 9% and a cross slope of 4% and no level landing (1.8% X 7.1%).
  - The southeast corner facing north has no level landing (3.1% X 7.2%).
- B. **Mansfield at Grant** has 1 new and 1 old ramp.
- The northeast corner facing south is an old ramp with no detectable warning, a cross slope of 5.3% and no level landing (4.4% X 3.5%).
  - The southeast corner facing north is a new ramp and has a rolled curb (1½ inch rise over a 9 inch run), a running slope of 8.6% and a cross slope of 3.7%.The paint has worn off the detectable warning which is facing into the middle of the intersection.
- C. **Mansfield at Congress** has 2 new ramps and new curbs around the northeast and southeast corners.
- The northeast corner facing south has a new ramp with a rolled curb (2 inch rise over a 8 inch run), the paint has worn off the detectable warning which is facing into the middle of the intersection.
  - The southeast corner facing north has a new ramp with a small rolled curb, a running slope of 10.7%, a cross slope of 6.8% and the paint has worn off the detectable warning which is facing into the middle of the intersection.
- D. **Congress at Wallace** has 8 ramps and all new curbs. The paint has already worn off the detectable warnings.



- The northwest corner facing south has a direct slope of 10%.
- The northwest corner facing west has a rolled curb (2 inch rise over a 6 inch run).
- The northeast corner facing west has a 5" straight lip and a running slope of 11.2%.
- The northeast corner facing south has a 3 ½ straight lip.
- The southeast corner facing north has a rolled curb (2 inch rise over a 6 inch run).
- The southeast corner facing west has a 2 inch straight lip. The detectable warning is facing into the middle of the intersection.
- The southwest corner facing east has a solid 1 ½ inch lip, a running slope of 9.3% and a cross slope of 2.6%.

6. **Catherine and Adams, Adams and Buffalo and Buffalo and Hamilton** were resurfaced in 2004.

A. The entire intersection of **Catherine and Adams** was resurfaced and 6 new ramps were installed and 2 old (2001) ramps were left.

- The northwest corner facing east is a new ramp with a rolled curb (2 inch rise over a 8 inch run).
- The northwest corner facing south is an old ramp with a rolled curb (2 inch rise over a 8 inch run), a reverse lip and a running slope of 9.6%.
- The northeast ramp facing west is a new ramp with a rolled curb (2 inch rise over a 8 inch run), a reverse lip and a running slope of 9.4% and no level landing (3.7% X 14.4%).
- The northeast corner facing south is a new ramp with a rolled curb (1 inch

rise over a 8 inch run), a reverse lip, a running slope of 15.7%, a cross slope of 3.7%, and no level landing (3.7% X 14.4%).

- The southwest corner facing north is an old ramp with a rolled curb (2½ inch rise over a 8 inch run).
- The southwest corner facing east is a new ramp with a rolled curb (2 ½ inch rise over a inch run).

B. The entire intersection of **Adams and Buffalo** was resurfaced with new curbs installed around all the corners. 6 new ramps were installed and 1 old ramp was left in place.

- The northwest corner facing south is a new ramp with a rolled curb (1 inch rise over a 8 inch run) and a cross slope of 3.5%.
- The northwest corner facing east is a new ramp with a rolled curb (1 1/4 inch rise over a 8 inch run) and a running slope of 15.4%. There is no answering ramp on the northeast corner.
- The northeast corner facing west has a new curb but no ramp.
- The northeast corner facing south is a new ramp with a rolled curb (1 1/4 inch rise over a 8 inch run) and a running slope of 13.5%.
- The southeast corner facing north is a new ramp with a rolled curb (1½ inch rise over a 8 inch run), a running slope of 10.6% and no level landing (2.5% X 3.1%).
- The southeast corner facing west is a new ramp with a rolled curb (2½ inch rise over a 16 inch run), a running slope of 9.5% and no level landing (2.5% X 3.1%).
- The southwest corner facing east is a new ramp with a rolled curb (1½

inch rise over a 8 inch run) and a running slope of 12.5%.

- The southwest corner facing north is an old ramp with a rolled curb (1 inch rise over a 8 inch run), a direct slope of 14.5% and a cross slope of 5%.

C. **Buffalo at Hamilton** has new curbs along Buffalo and 1 new ramp and 2 old ramps at he intersection.

- The northeast corner facing west is an old ramp with a 2 inch lip and a running slope of 16%. There is no answering ramp on the northwest side of the Hamilton.
- The northeast corner facing south is a new ramp with a rolled curb ( $\frac{1}{2}$  inch rise over a 6 inch run) and a running slope of 19.5%.
- The southeast corner facing north is an old ramp with a 2 inch lip and a running slope of 13%.

7. The intersection of **Carver and Thomas** was resurfaced in 2002 and **Vought and Thomas** in 2004. The ramps installed in 2002 at Carver and Thomas were inspected with the Engineer for the City in 2003 and were found to be defective. Two new ramps were installed at Vought and Thomas in 2004. The 2002 defective ramps were not replaced and the 2004 ramps were installed incorrectly.

- The northwest corner facing east is a new ramp with a rolled curb (2 inch rise over a 6 inch run), a running slope of 11.5% and a cross slope of 5.8%.
- The northeast corner facing west is a new ramp with a rolled curb (4 inch rise over a 6 inch run), a running slope of 10.4% and a cross slope of 3.7%.

- The southeast corner facing north was installed in 2002 with a rolled curb (2 inch rise over a 6 inch run) and no level landing (8.0% X 6.5%).
- The southeast corner facing west was installed in 2002 with a rolled curb (3 inch rise over a 6 inch run), an 8.2% counter slope, a 6.7% cross slope and no level landing (8.0% X 6.5%).
- The southwest corner facing east was installed in 2002 and has a 2 inch solid lip, a cross slope of 5% and no level landing (8% X 5.6%).
- The southwest corner facing north was installed in 2002 and has a cross slope of 5.6% and no level landing (8% X 5.6%).

26. There are hundreds of additional examples of defects during resurfacing during earlier years, too numerous to list in this Complaint. Ypsilanti must immediately stop its pattern and practice of discriminating against people with disabilities when building new services, programs or activities and altering old services, programs or activities, and must retrofit services, programs or activities built or altered after the effective dates of the Americans With Disabilities Act and Michigan law.

## V. CAUSES OF ACTION

### FIRST CAUSE OF ACTION: CLASS-WIDE CLAIM UNDER TITLE II OF THE AMERICANS WITH DISABILITIES ACT

27. Plaintiffs bring this count under Title II of the Americans With Disabilities Act (ADA) for class-wide declaratory and injunctive relief, and for individual damages.

28. Title II of the ADA provides that “no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such

entity.” 42 U.S.C. § 12132. Title II of the ADA defines the City of Ypsilanti as a “public entity.” 42 U.S.C. § 12131(1).

29. One form of prohibited discrimination is the exclusion from a public entity’s services, programs, or activities because of the inaccessibility of the entity’s facility, and so the United States Department of Justice has issued binding program accessibility regulations that plaintiffs now seek to enforce.

30. The Title II ADA access requirements are set forth in 28 C.F.R. § 149 (the general prohibition against discrimination); 28 C.F.R. § 150 (requiring accessibility of facilities existing prior to January 26, 1992, the effective date of Title II); and, 28 C.F.R. § 151 (requiring that facilities newly constructed or altered after January 26, 1992 be fully accessible).

31. Section 28 C.F.R. § 150(a) requires Ypsilanti to “operate each service, program, or activity, when viewed in its entirety, is readily accessible to and usable by individuals with disabilities. “The phrase ‘services, programs, or activities’ encompasses virtually everything that a public entity does.” *Johnson v. City of Saline*, 151 F.3d 564, 569 (6<sup>th</sup> Cir.1998).

32. Beginning in at least 1992, and continuing up to the present, Ypsilanti has engaged in a continuing pattern and practice of over-arching discrimination against plaintiffs and class members by operating several of its services, programs, or activities, when viewed in their entirety, are not readily accessible to and usable by plaintiffs and other class members with disabilities. These services, programs, or activities include, among others, Ypsilanti’s sidewalks, intersections, and intersection crossing signals.

33. In addition, Title II of the Americans With Disabilities Act requires that when a public entity builds or alters any part of a facility after January 26, 1992, it shall to the maximum extent possible, be altered so that it is readily accessible and usable by individuals with

disabilities. 42 U.S.C. §§ 12146 & 12147; 28 C.F.R. § 35.151(a) & (b). Title II of the ADA requires that whenever a City alters facilities, including roads, walks, passageways (28 C.F.R. Part 36, App. A, Section 3.5. those alterations must meet the ADAAG or the UFAS. *Tennessee v. Lane*, 541 U.S. 509, 124 S.Ct. 1978, 1993 (2004)(“Title II of the ADA requires compliance with specific architectural accessibility standards. 28 C.F.R. § 35.151”). The Sixth Circuit applied this holding of *Tennessee v. Lane* specifically to find that when a city resurfaces an intersection, it must install curb ramps meeting ADAAG requirements, including those requirements listed at Sections 4.7 and 4.8. *Ability Center of Greater Toledo v. City of Sandusky, Ohio*, 385 F.3d 901, 904 (6<sup>th</sup> Cir. 2004).

34. Beginning January 26, 1992, and each year continuing to the present, the City of Ypsilanti has constructed new services, programs or activities or altered parts of services, programs or activities, but has failed to ensure that those services, programs or activities are readily accessible to and usable by plaintiffs and similarly situated persons with disabilities. For example. among many other things, the City of Ypsilanti has resurfaced intersections and/or rebuilt sidewalks after January 26, 1992, without installing curb ramps that meet federal standards.

35. Each of these failures by the City of Ypsilanti has made each of these existing and or newly altered services, programs or activities not readily accessible and usable by plaintiffs and others similarly situated. By their actions complained of herein, defendants have intentionally discriminated against plaintiffs and class members due to their disabilities. Plaintiffs are entitled to injunctive relief ordering the City of Ypsilanti to bring these and future services, programs or activities into compliance, individual compensatory damages and attorneys fees and costs.

SECOND CAUSE OF ACTION: CLASS-WIDE CLAIM UNDER THE REHABILITATION  
ACT OF 1973

36. Plaintiffs bring this count for class-wide declaratory and injunctive relief and for individual damages. The Rehabilitation Act requires that when a public entity that receives federal funding builds or alters any part of a facility, it shall to the maximum extent possible, be made so that it is readily accessible and usable by individuals with disabilities. 29 U.S.C. § 794. “[n]o otherwise qualified individual with a disability...shall, solely by reason of her or his disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” 29 U.S.C. § 794(a). Upon information and belief, Ypsilanti receives Federal financial assistance. The Rehabilitation Act defines “program or activity” as “all of the operations of” a qualifying local government. 29 U.S.C. § 794(B)(1)(A).

37. Beginning with the effective date of the Rehabilitation Act, and continuing each year to the present, the City of Ypsilanti has received federal money and has constructed or altered parts of services, programs or activities, but has engaged in a continuing pattern and practice of over-arching discrimination against plaintiffs and class members by denying the benefits of, or subjecting them to discrimination under several programs or activities receiving Federal financial assistance. failed to ensure that those services, programs or activities are readily accessible to and usable by and similarly situated persons with disabilities. For example, the City of Ypsilanti has resurfaced intersections and/or rebuilt sidewalks after 1974, without installing curb ramps that meet federal standards.

38. Each of these failures by the City of Ypsilanti has made each of these new or altered services, programs or activities not readily accessible and usable by and others similarly situated. By their actions complained of herein, defendants have intentionally discriminated against Plaintiffs and class members due to their disabilities. Plaintiffs are entitled to injunctive relief

ordering the City of Ypsilanti to bring these services, programs or activities into compliance, individual compensatory damages, and attorneys fees and costs.

### THIRD CAUSE OF ACTION: CLASS-WIDE CLAIMS UNDER MICHIGAN LAW

39. Plaintiffs bring this count for class-wide injunctive relief. The above complained of failure by the City of Ypsilanti to construct, alter and maintain its services, programs or activities to be accessible to plaintiffs and similarly situated class members also violates Michigan law at M.C.L. § 37.1301-02.. Plaintiffs are entitled to individual compensatory damages, as well as class-wide injunctive and declaratory relief, attorneys fees and costs.

### VI. CLASS ACTION ALLEGATIONS

40. In Counts I, II and III, pursuant to Fed. R. Civ. P. 23 (b)(2), plaintiffs bring this action on behalf of themselves and a class of all persons with mobility impairments or sight impairments as defined by the Rehabilitation Act of 1974, the Americans With Disabilities Act and by Michigan law, who have used in the past, or who will in the future, attempt to use the sidewalks and intersections of the City of Ypsilanti that have been built, rebuilt or altered after the passage of the Rehabilitation Act and the Americans With Disabilities Act. Plaintiffs seek only declaratory and injunctive relief on behalf of the class.

A. The size of the class is so numerous that joinder of the individual members would be impracticable. Southern Michigan and Northern Ohio has a population of more than four hundred thousand persons. Based on the 2000 census, several thousand persons who must rely on ambulatory devices such as wheelchairs or scooters reside in the Ypsilanti area alone. Many thousands of persons in the area close to Ypsilanti have been issued “handicapped” parking placards for their vehicles. Furthermore - like some of the plaintiffs - some persons with disabilities who reside outside of Ypsilanti visit Ypsilanti for personal and/or business reasons, and have attempted or will attempt to use the facilities services, programs or activities at issue.



B. The named plaintiffs are adequate class representative because each is directly impacted by defendants' failure to comply with federal and with Michigan law. The interests of the named plaintiffs are not antagonistic to, or in conflict with the interests of the class as a whole. The attorneys representing the class are experienced in representing clients in class action disability and civil rights claims.

C. Common questions of law and fact are involved, including questions posed by plaintiffs' allegations that defendants have failed to properly install, repair or adequately maintain fully accessible facilities, services, programs or activities, and whether these actions violate Michigan and federal law.

D. Claims of the named plaintiffs are typical of the claims of the class because all class members and the named plaintiffs are affected by defendants' failure to properly install, repair or adequately maintain fully accessible services, programs or activities and to follow the requirements of federal and Michigan law.

E. Defendants have acted on grounds generally applicable to the class, thereby making appropriate final declaratory and injunctive relief with respect to the class as a whole.

F. Notice of the pendency of this class action pursuant to Rule 23(b)(2) is not required. Notice of any proposed dismissal or settlement shall be given to all members of the class in such manner as the Court directs pursuant to Rule 23(e).

## VII. PRAYER FOR RELIEF

WHEREFORE, plaintiff class seeks judgment against defendants as follows:

1. That the Court declare the rights and duties of the parties and issue injunctive relief consistent with the relief sought by plaintiffs;
2. That defendants compensate the named plaintiffs for damages under law in an amount according to proof; and

3. That plaintiffs recover an award of reasonable attorneys fees, costs, and expenses.  
Plaintiffs further pray for such additional relief as the interests of justice may require.

Respectfully Submitted,

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