





UNIVERSAL DESIGN -
UNIVERSAL DELIGHT:

INCLUSIVENESS

AND THE

AMERICANS WITH
DISABILITIES ACT

Before we start ... The Life of a Student

What do you learn
from lectures like this?

blah blah blah blah blah blah
blah [doze doze doze...]

Before we start ... The Life of a Student

What do you learn
from lectures like this?

Please make note of three things worth
remembering.

A story about my friend Jim, and ...

design



accessibility



design

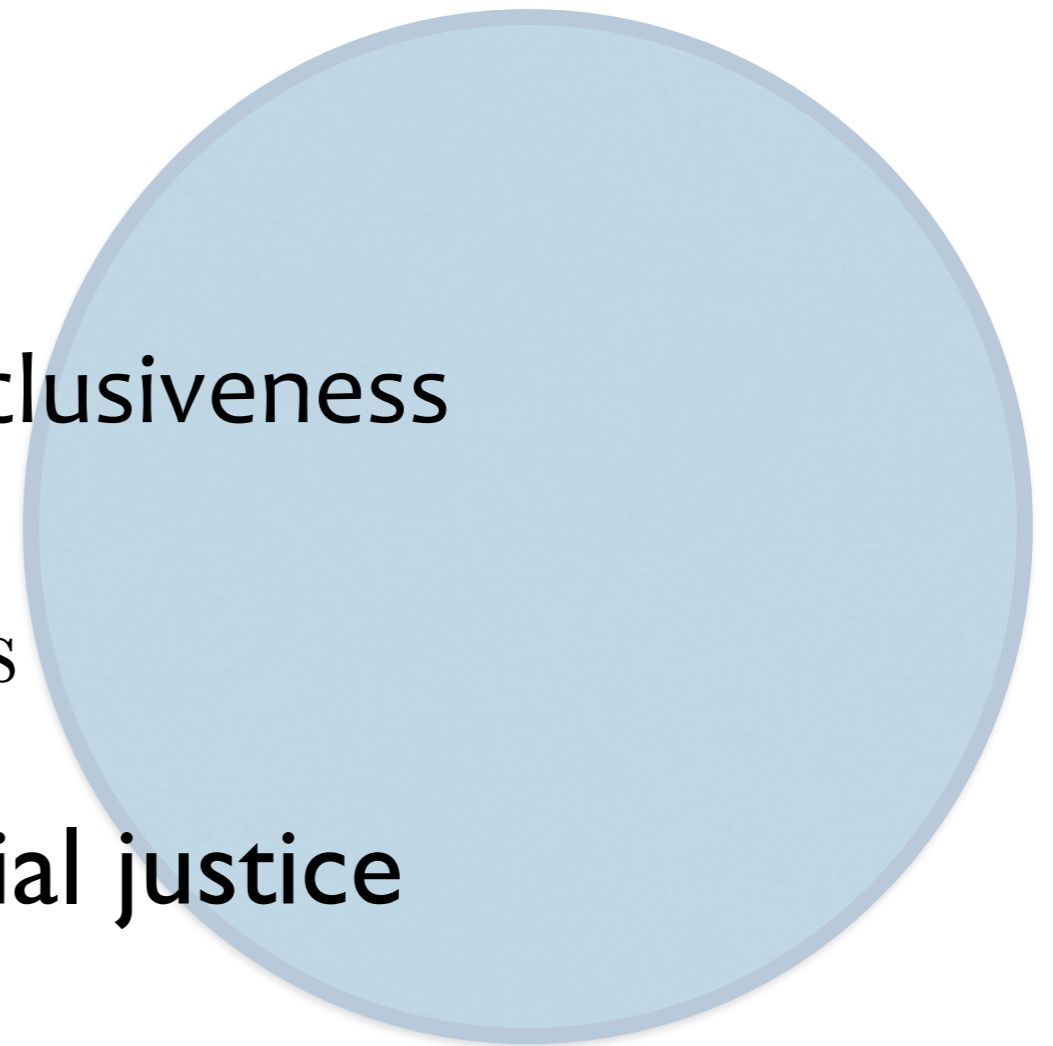


accessibility



design

accessibility



discrimination

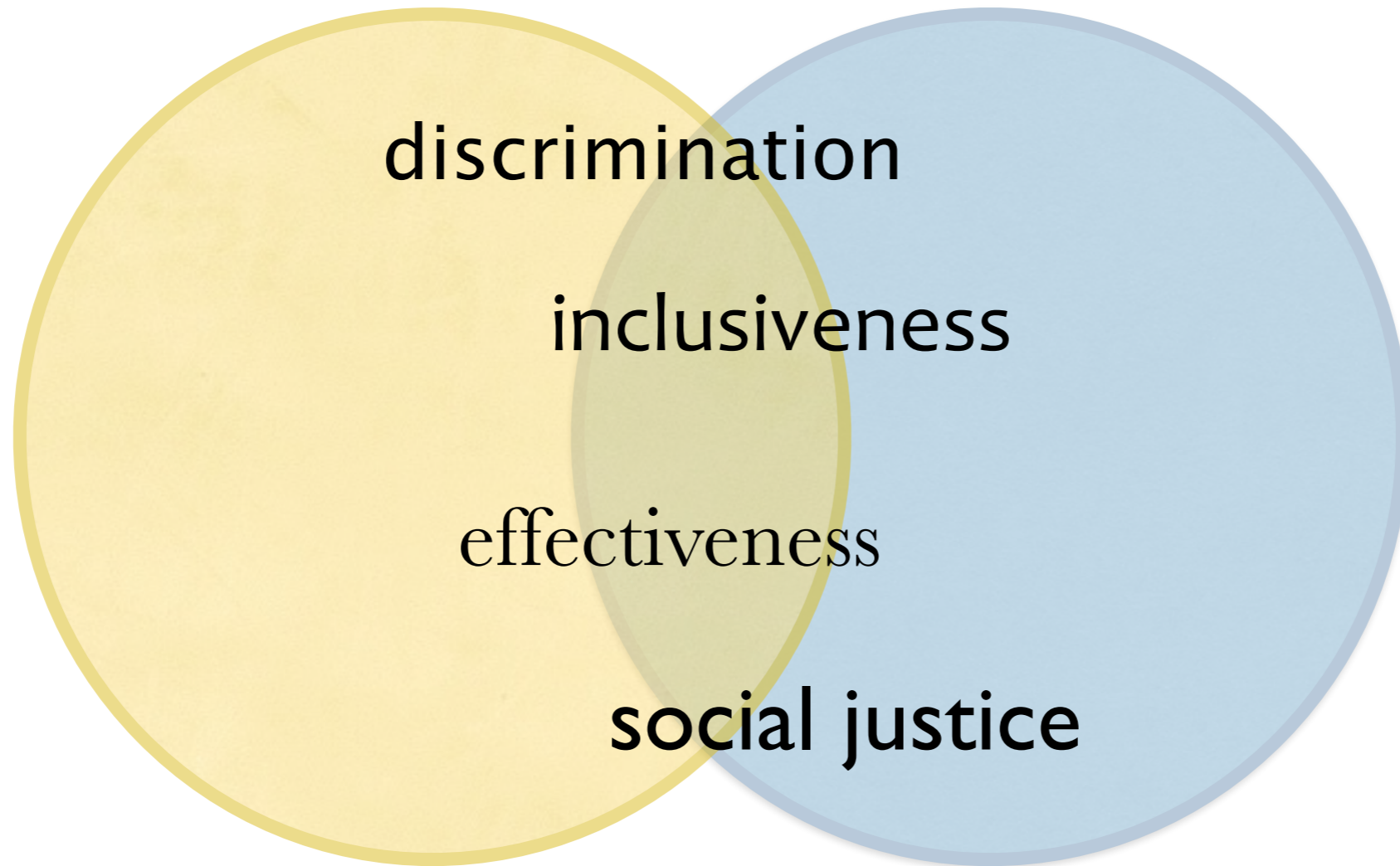
inclusiveness

effectiveness

social justice

design

accessibility



discrimination

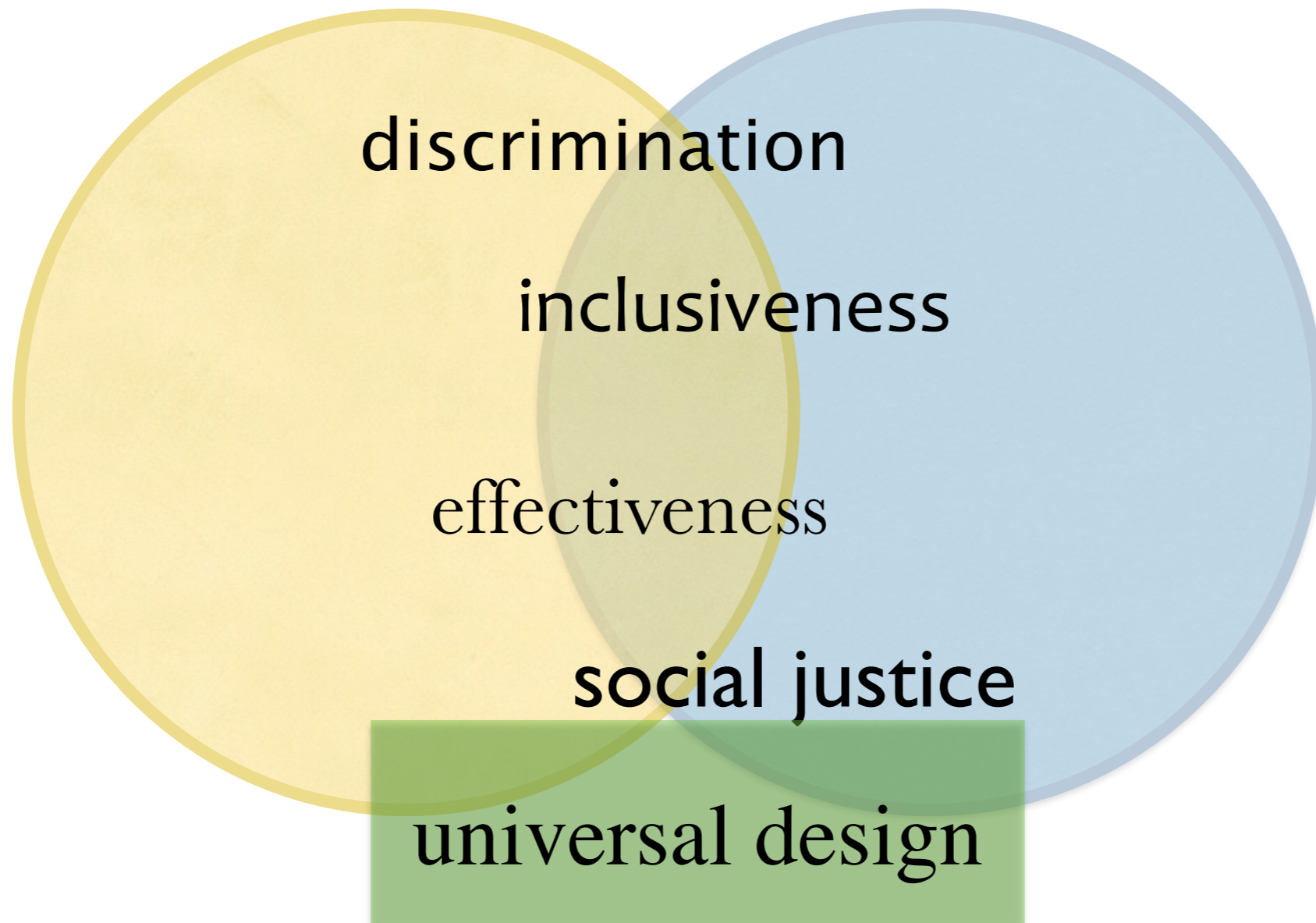
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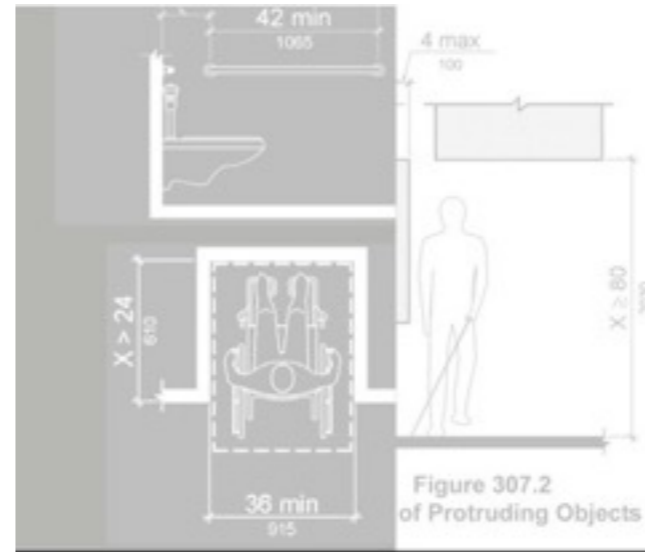
design

accessibility

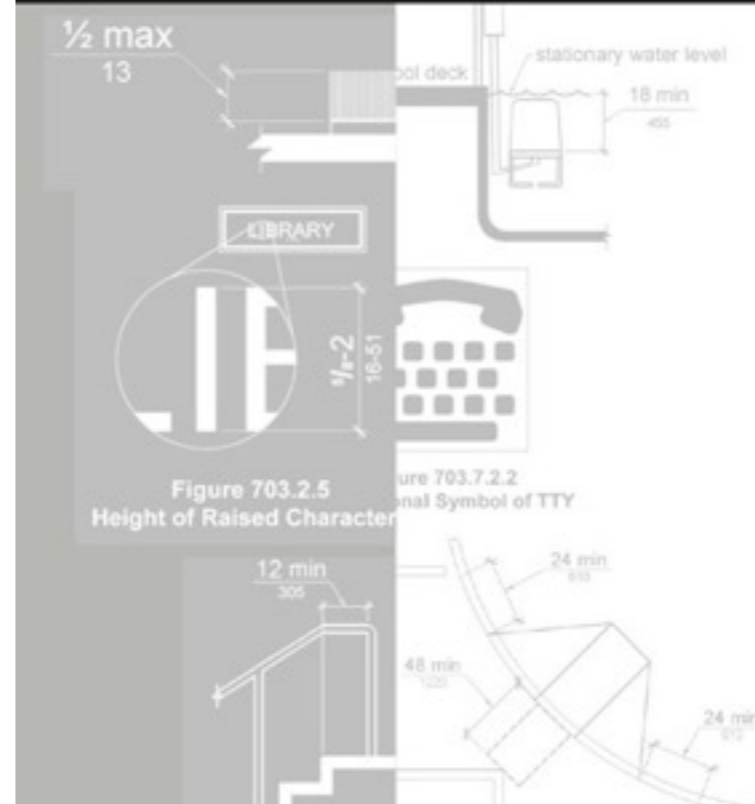


PERCEPTION

is the core problem



2010 ADA Standards for Accessible Design



Department of Justice
September 15, 2010

Community view of accessibility



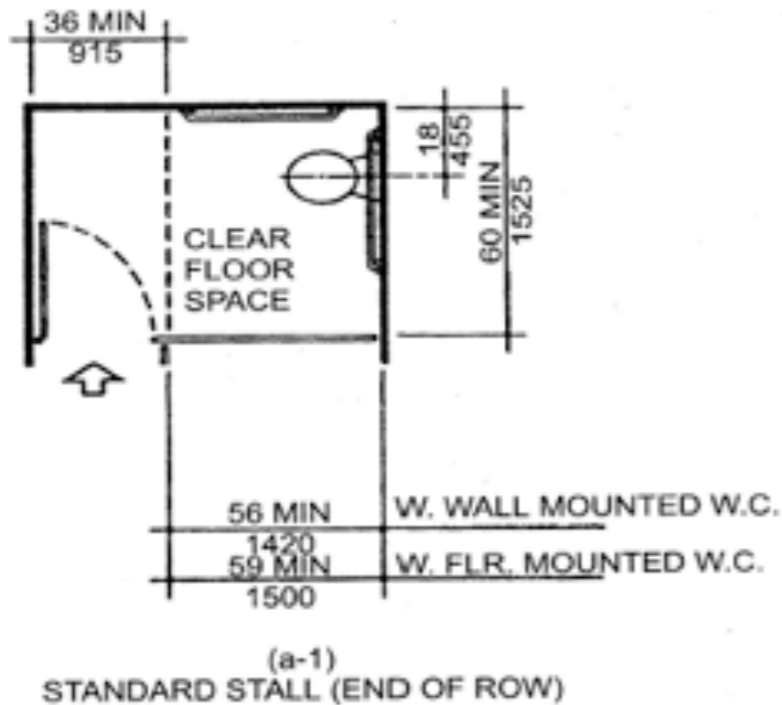
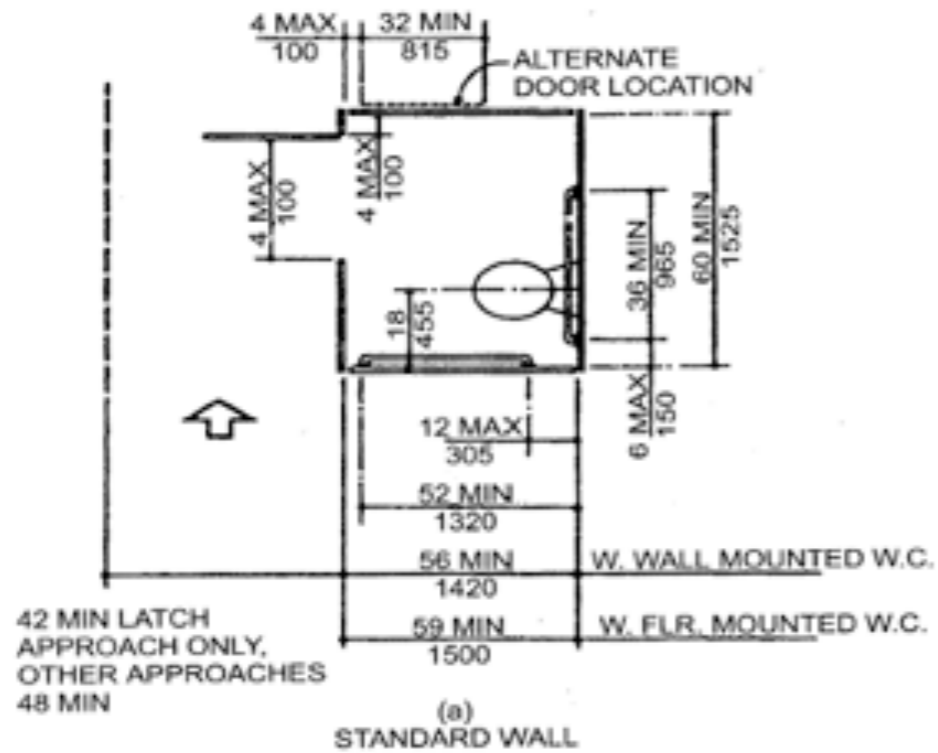
Community view of accessibility



Architects' view of accessibility

- code compliance

ACCESSIBILITY

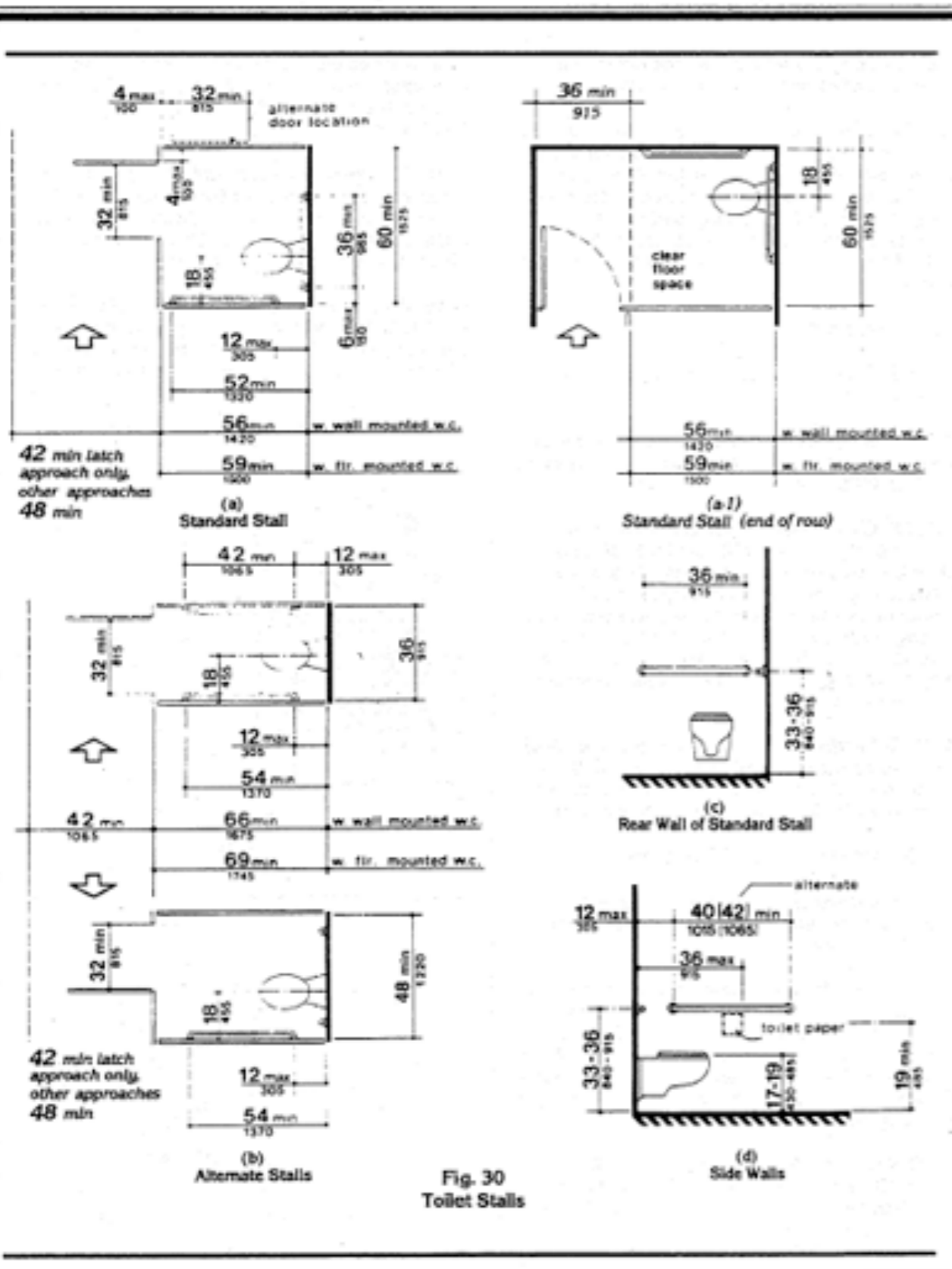


ADAAG FIGURE 30
TOILET STALLS

Architects' view of accessibility

4.17 Toilet Stalls

- code compliance
- focussed on wheelchairs



Architects' view of accessibility

4.17 Toilet Stalls

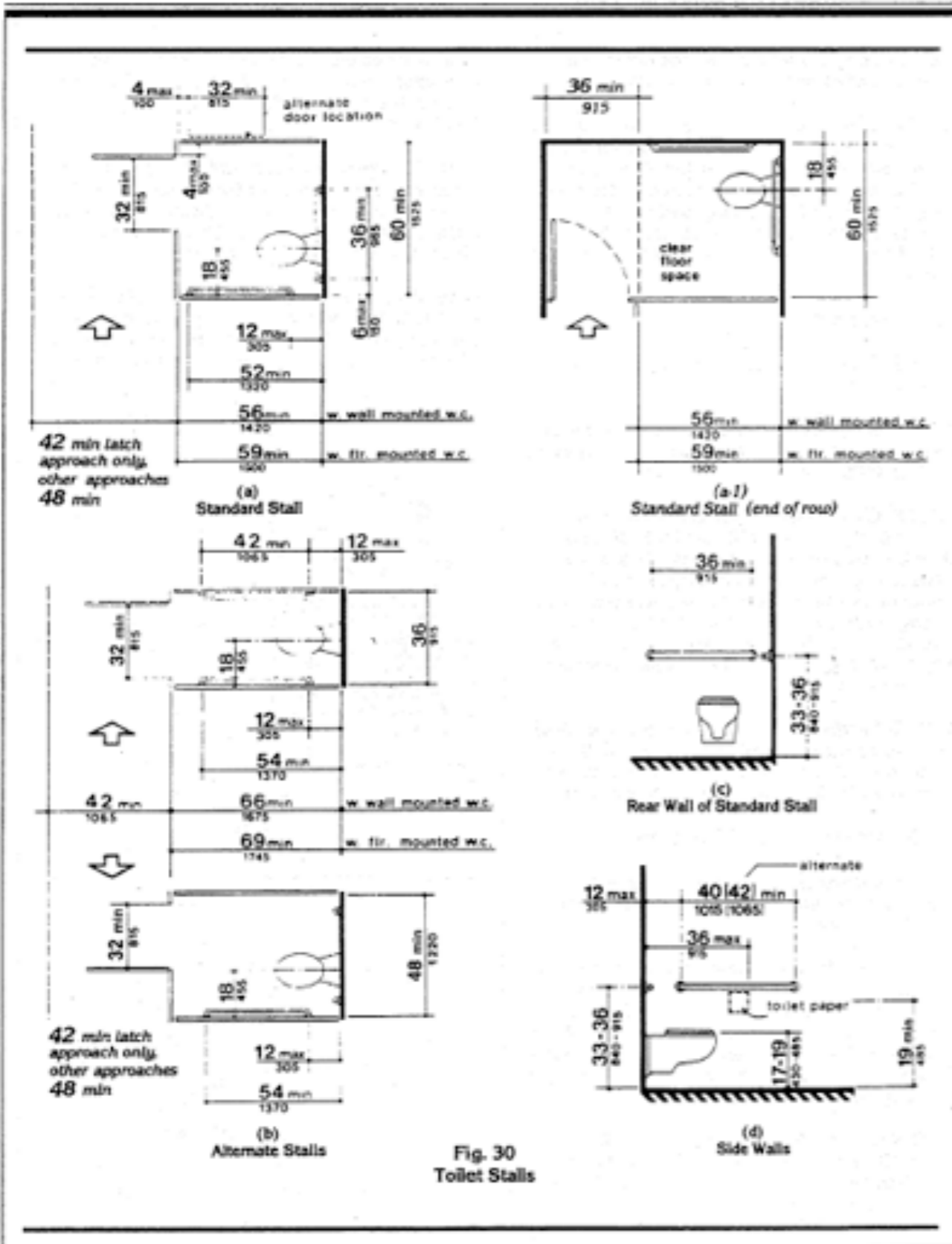
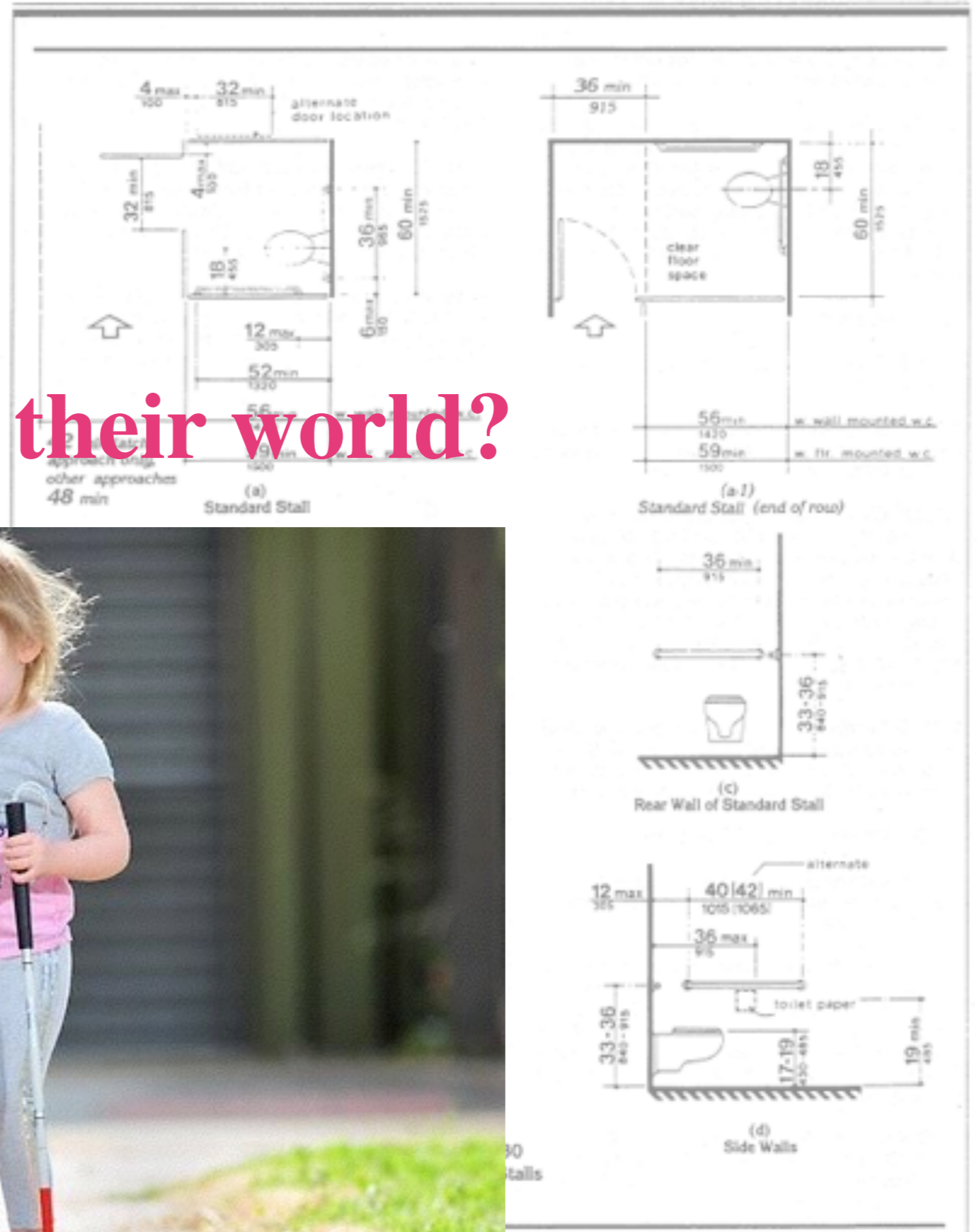


Fig. 30
Toilet Stalls

- code compliance
- focussed on wheelchairs
- emphasis on toilet rooms

Architects' view of accessibility



How does that fit into their world?



Premise #1: the core problem is our profession...

Despite lip service to
accessibility and to
universal design...

...architects seem to be
the #1 source of serious
accessibility problems in
the built environment.



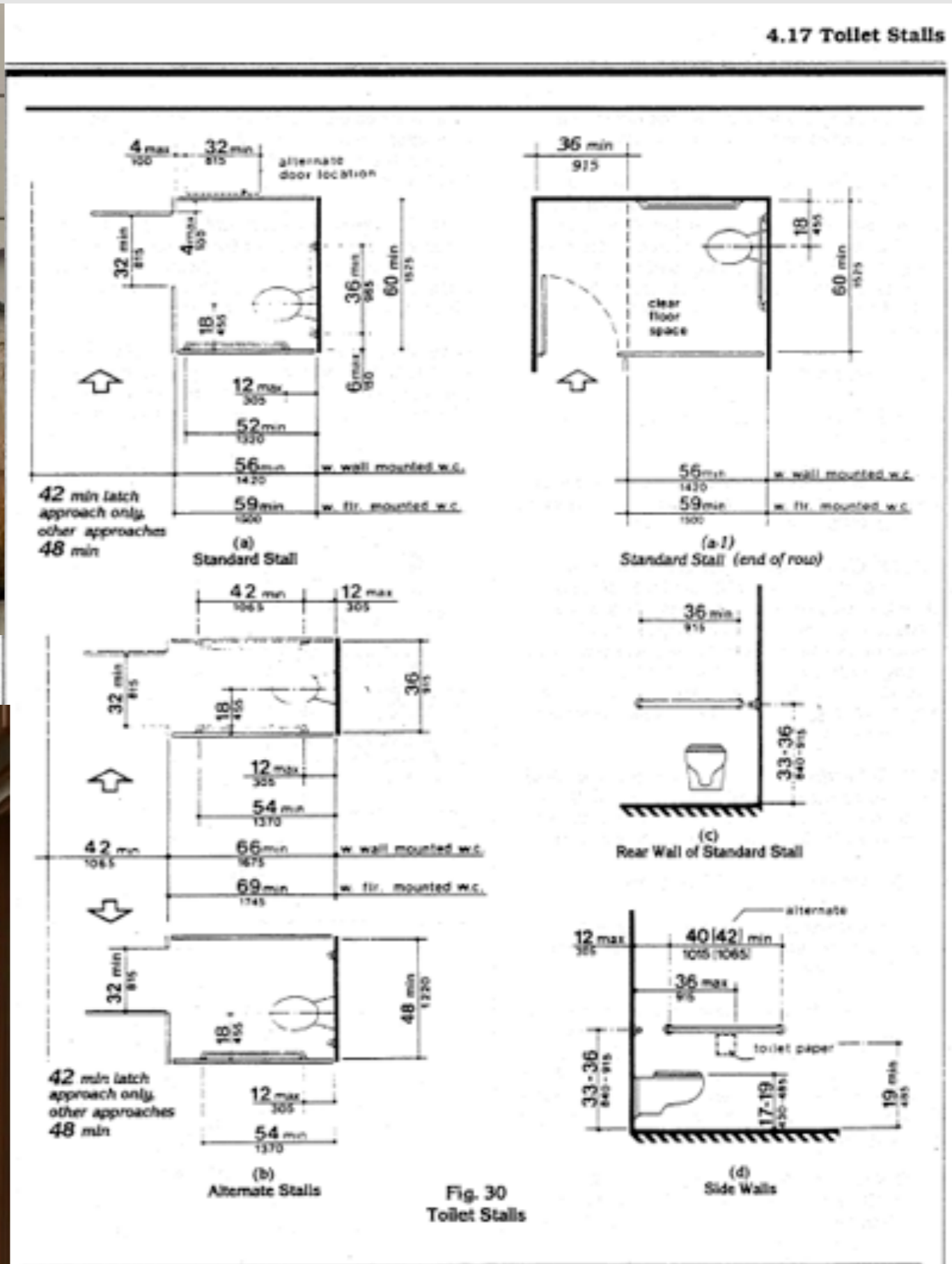
Architects' view of accessibility: minimum = maximum



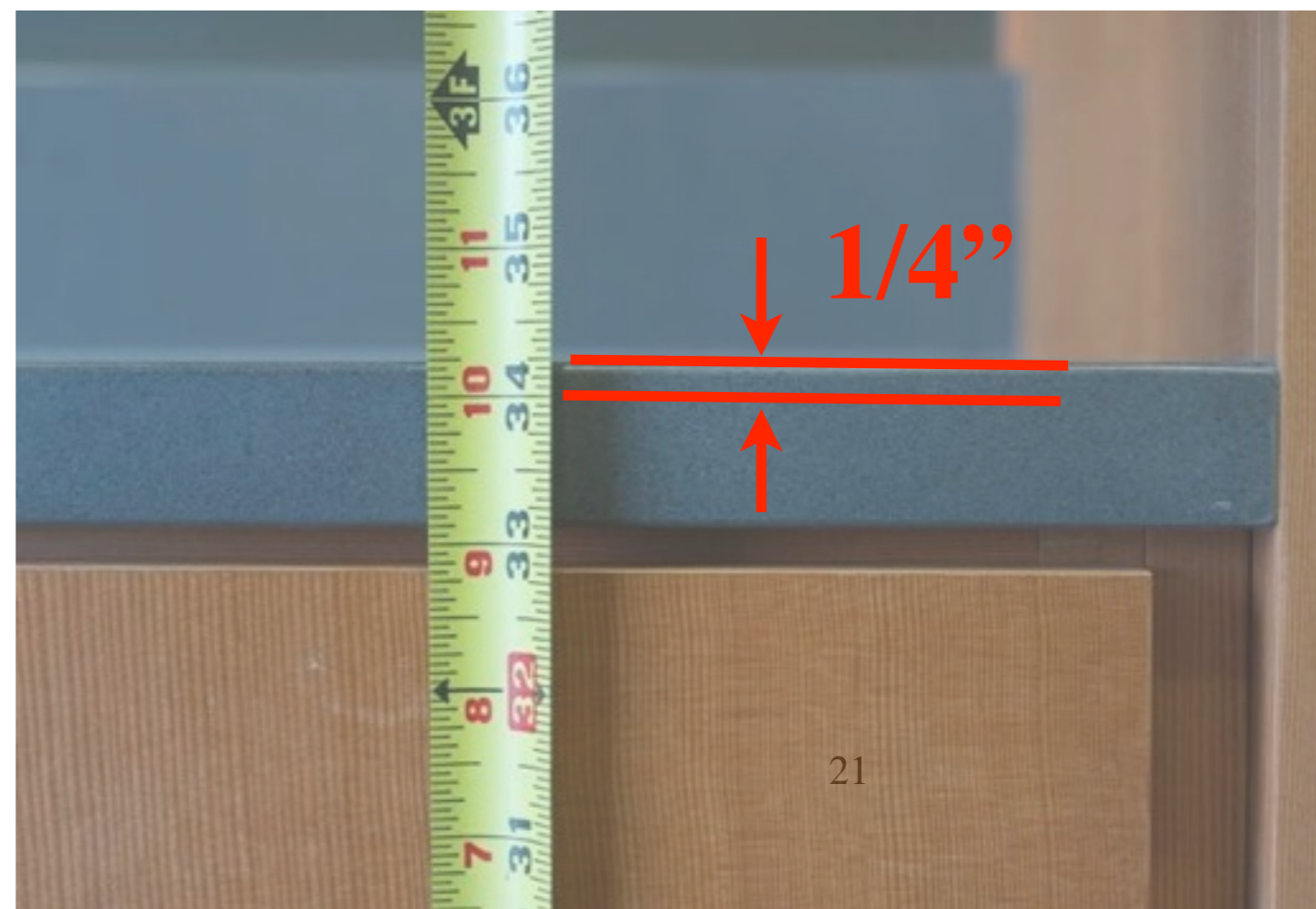
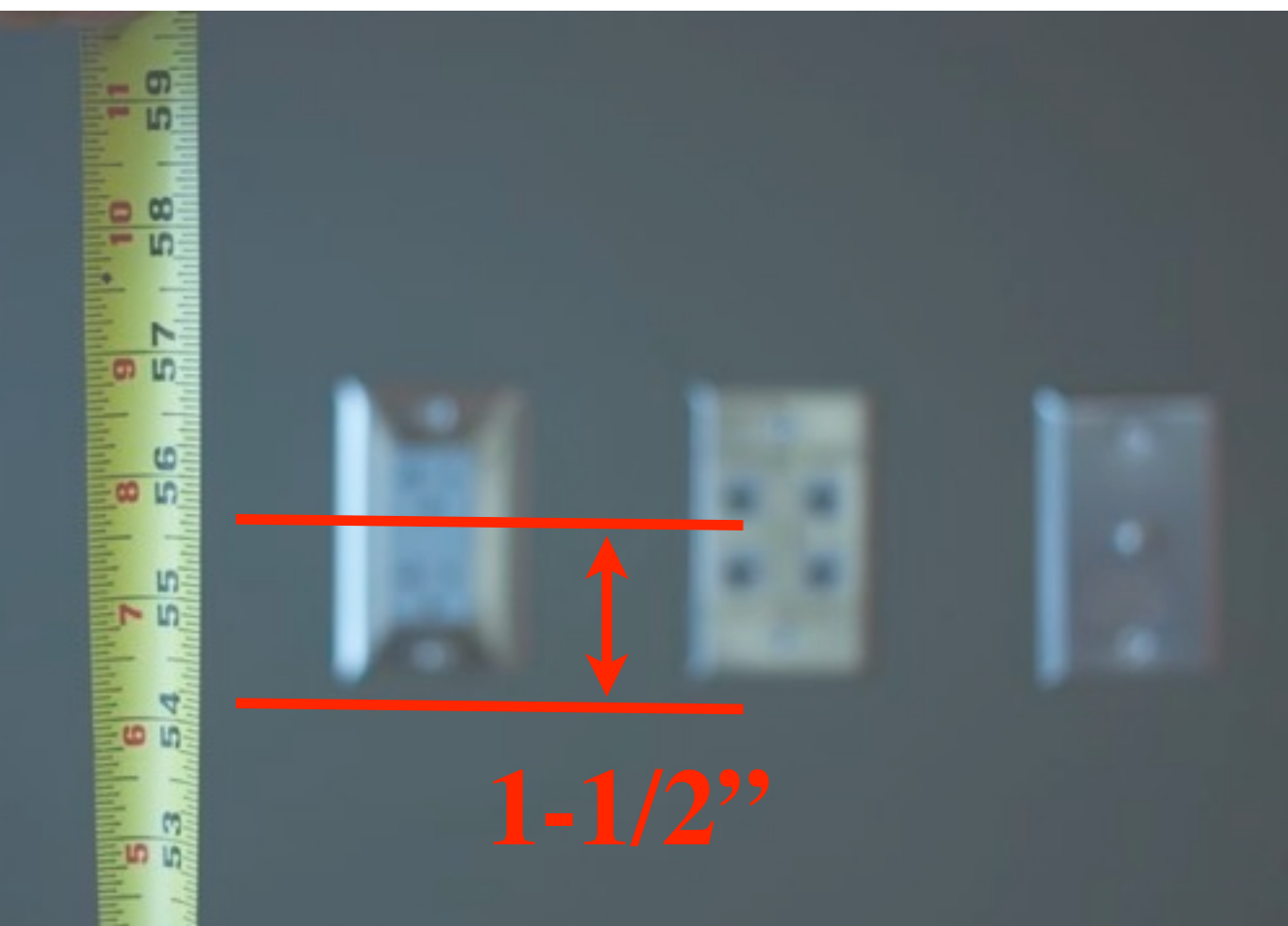
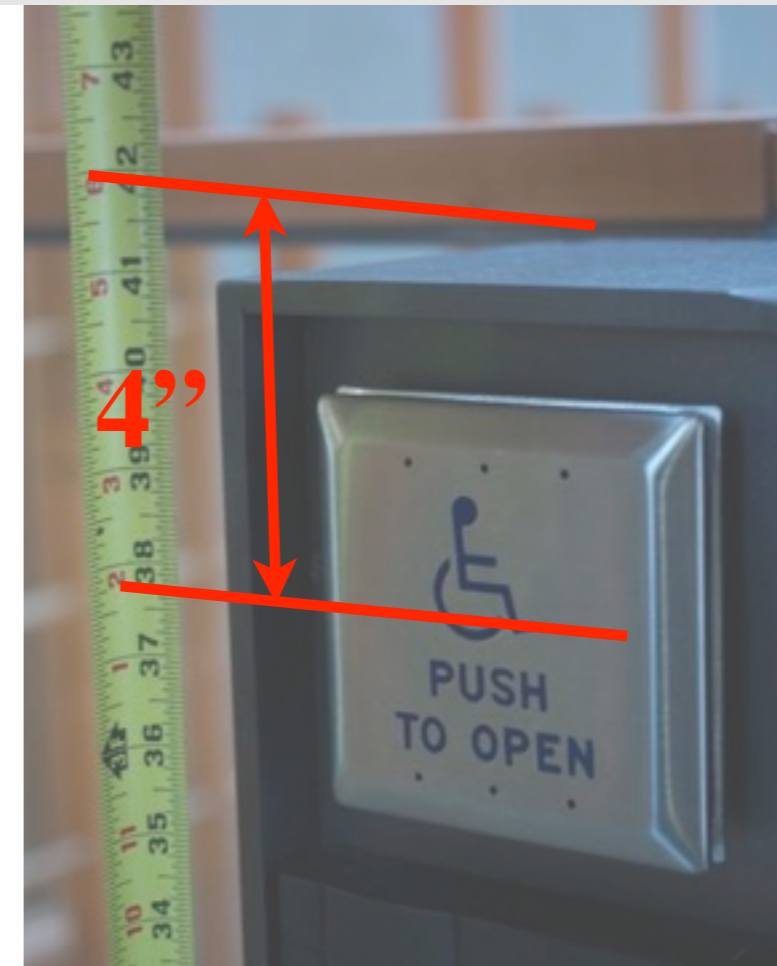
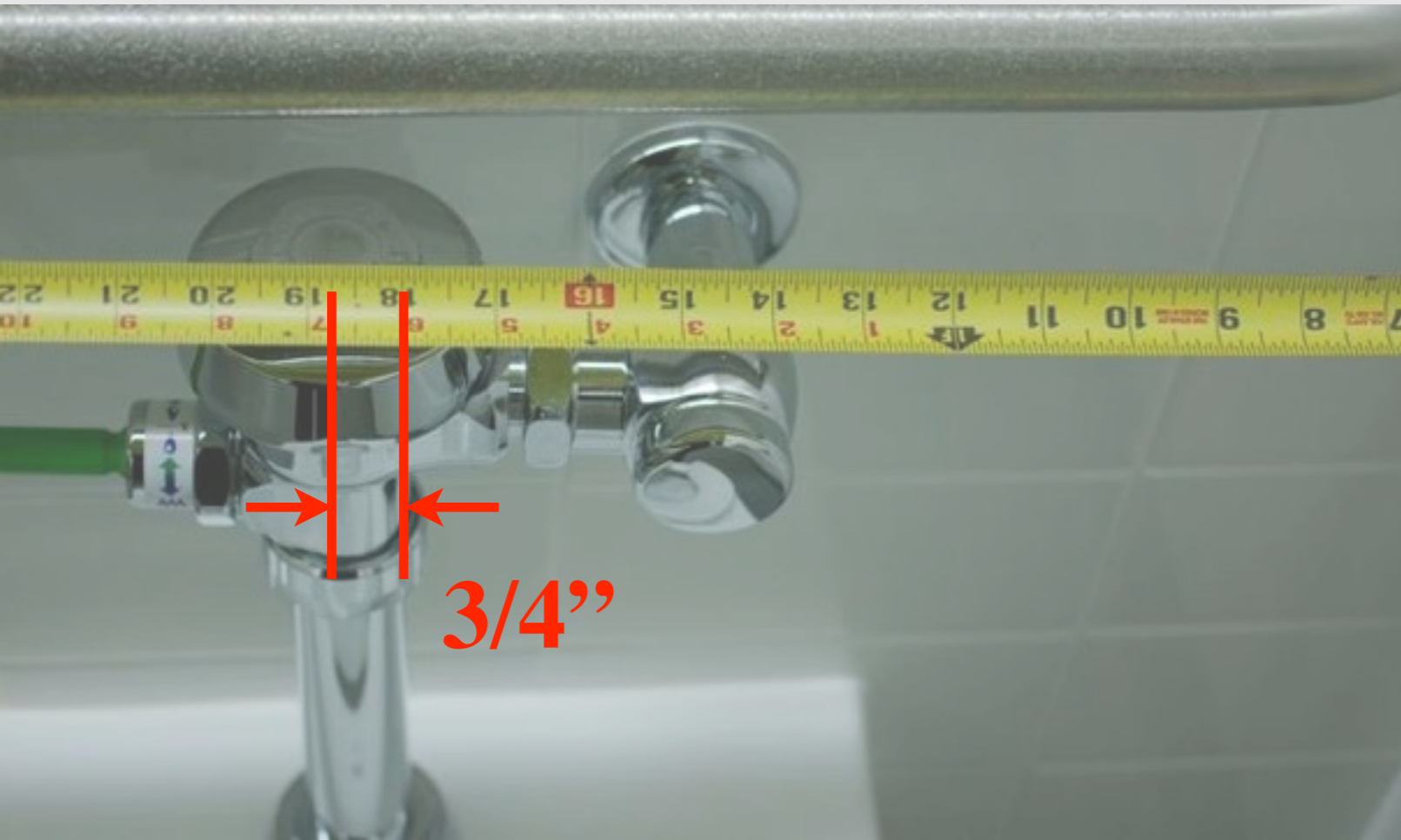
Case Study #1: Ford Alumni Center University of Oregon



Architects' view of accessibility: minimum = maximum

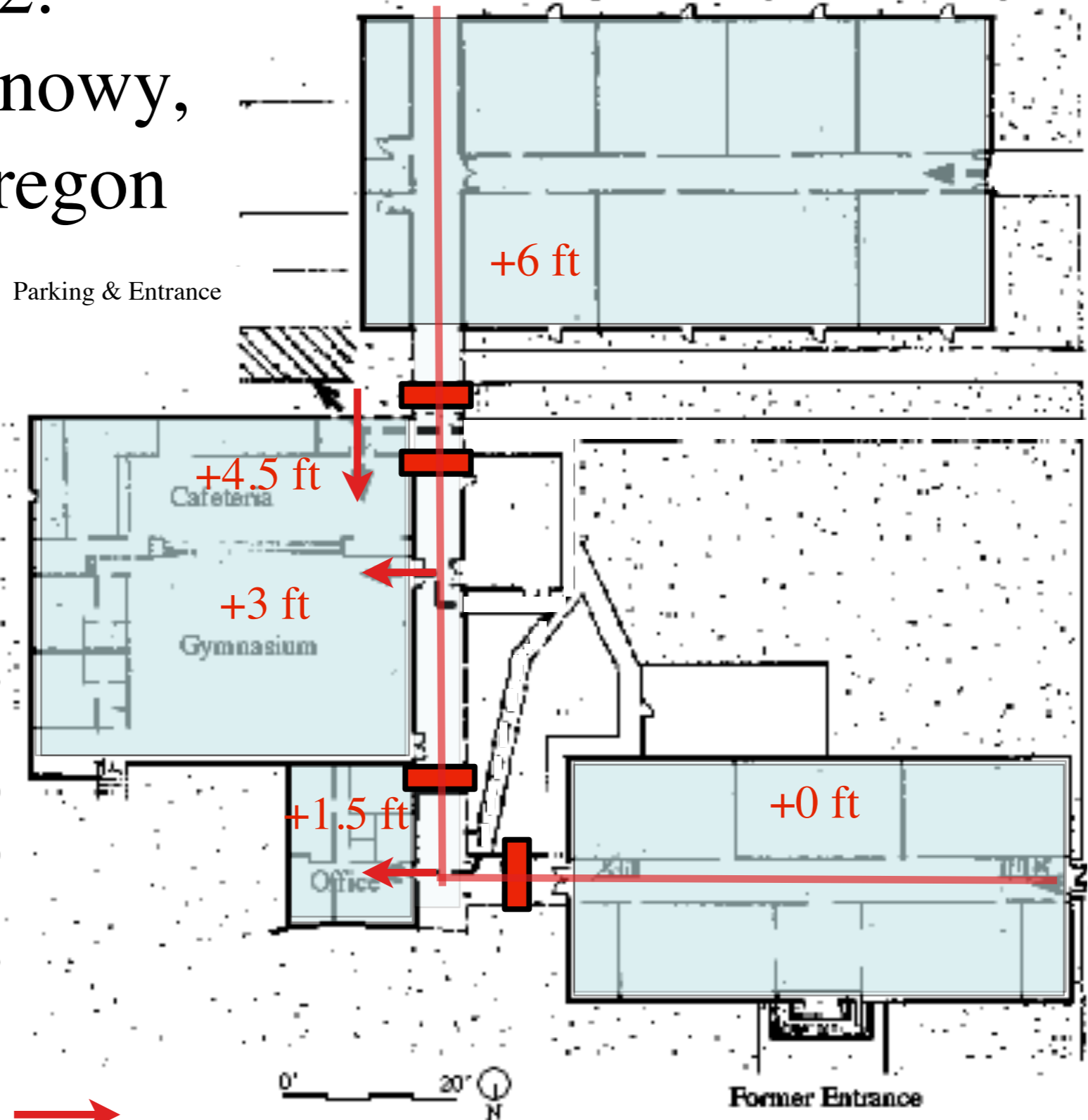


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Architects' view of accessibility: minimum = maximum

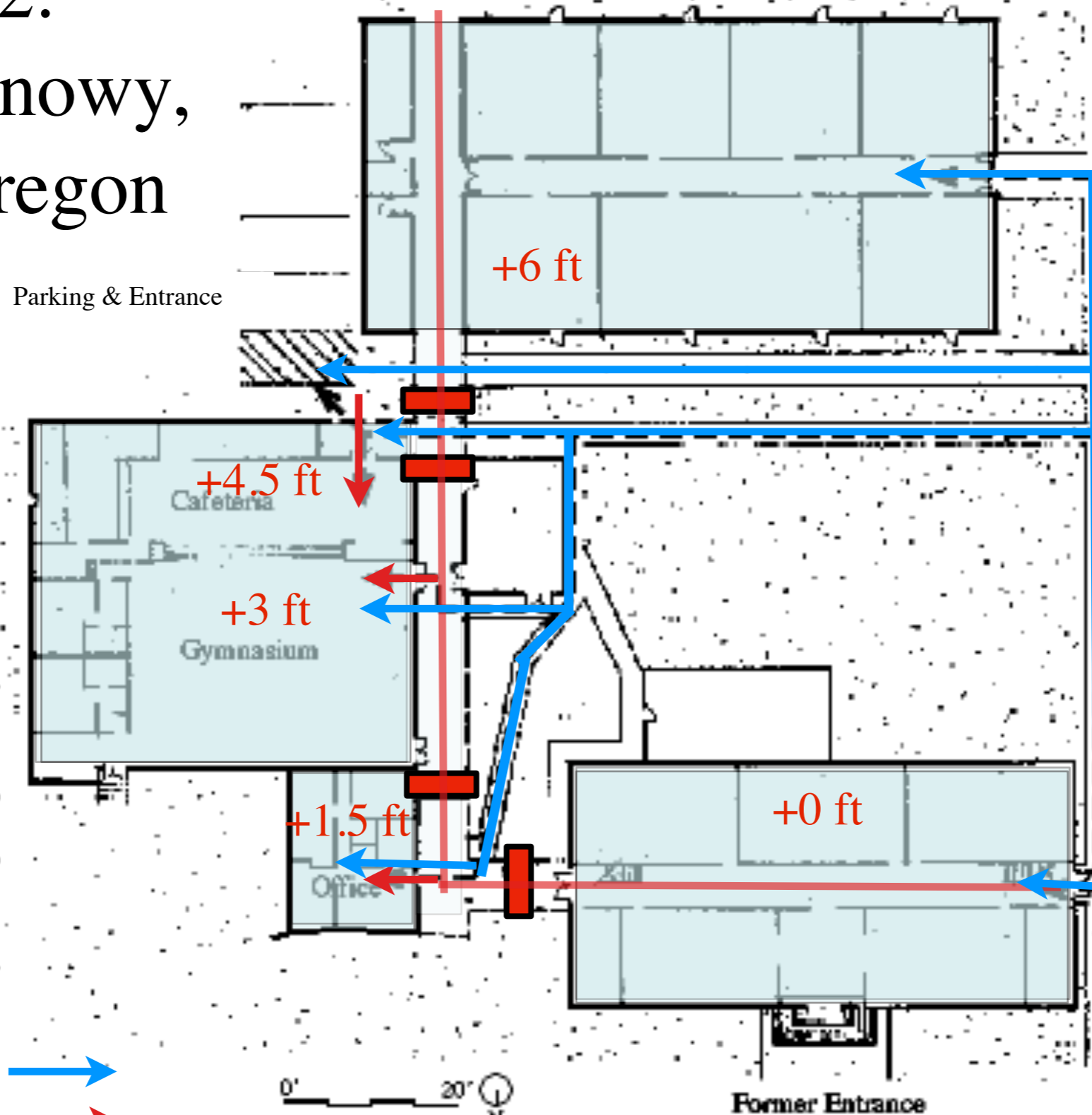
Case Study #2: School in a Snowy, Icy Part of Oregon

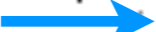




inaccessible routes 
barriers 

Architects' view of accessibility: minimum = maximum

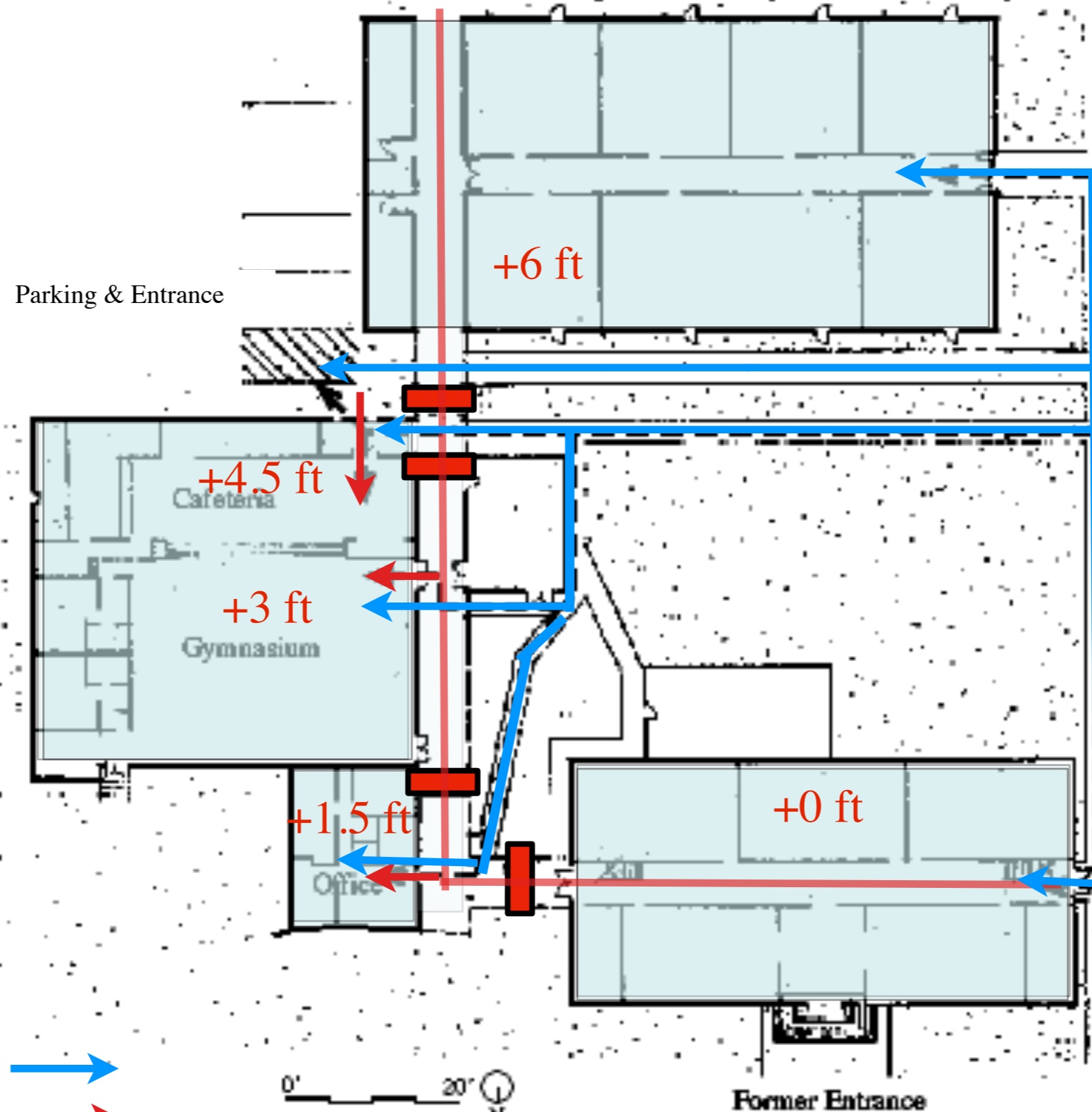
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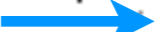




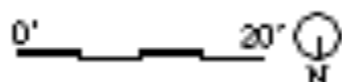
- accessible routes 
- inaccessible routes 
- barriers 

Architects' view of accessibility: minimum = maximum

but does this work?



- accessible routes 
- inaccessible routes 
- barriers 



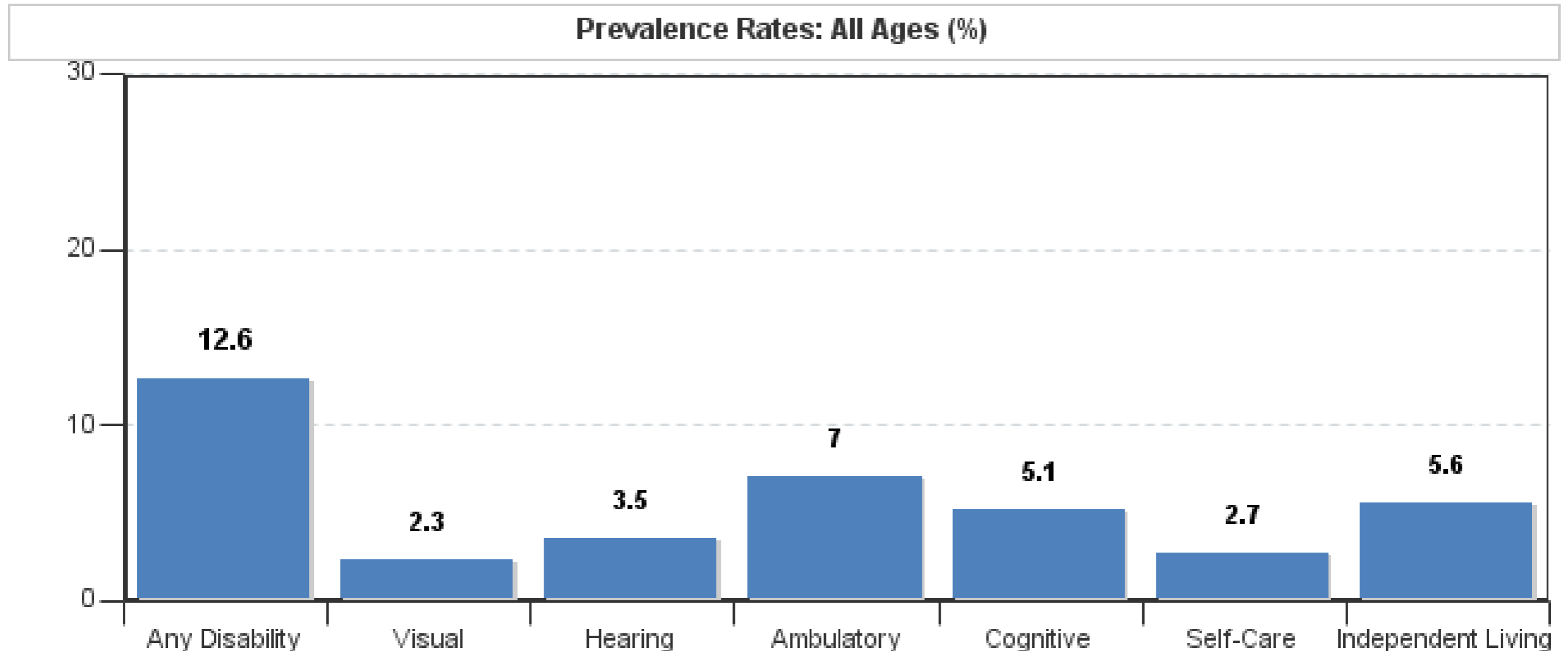
Premise #2: it's not just (or even mostly) about wheelchairs

In many architectural practices,
it is clear that accessibility = wheelchairs.



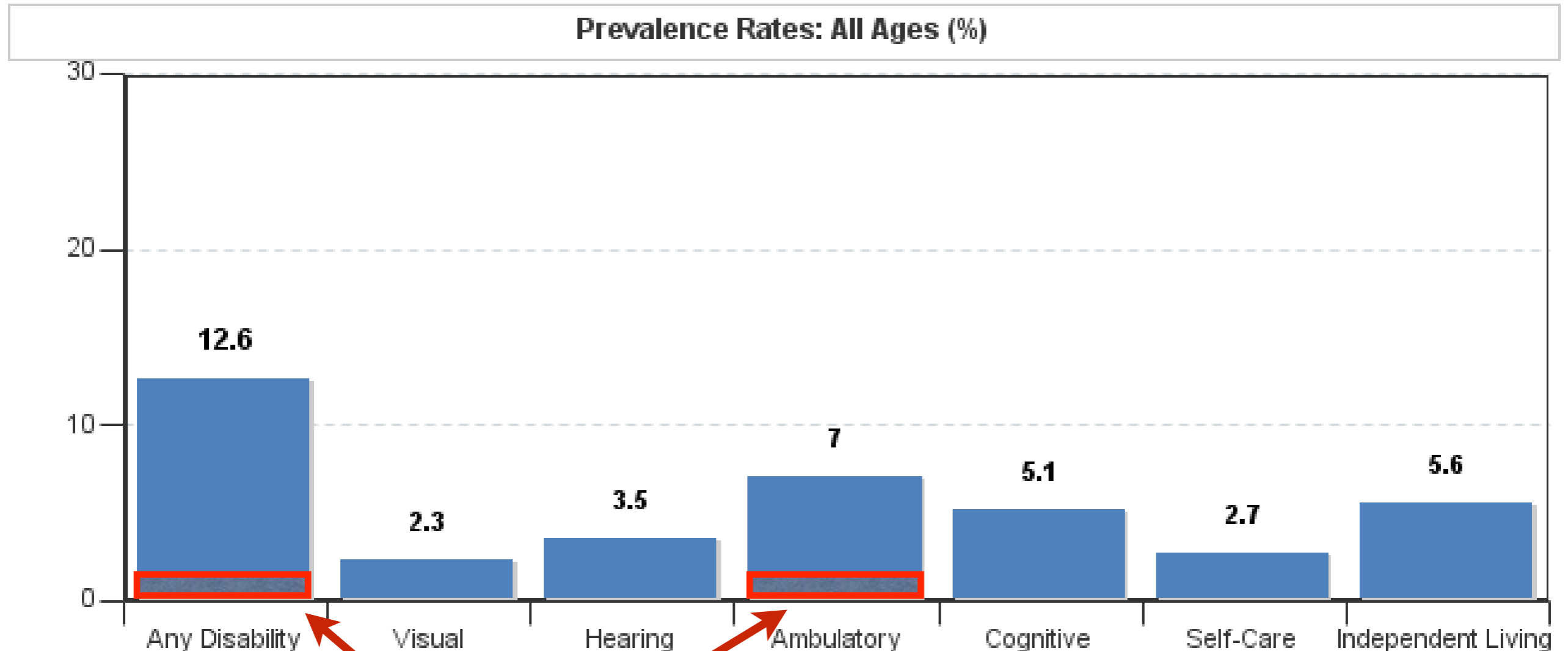
Statistics: percentage of US population with disabilities

Prevalence of disability among non-institutionalized people of all ages in the United States in 2015*



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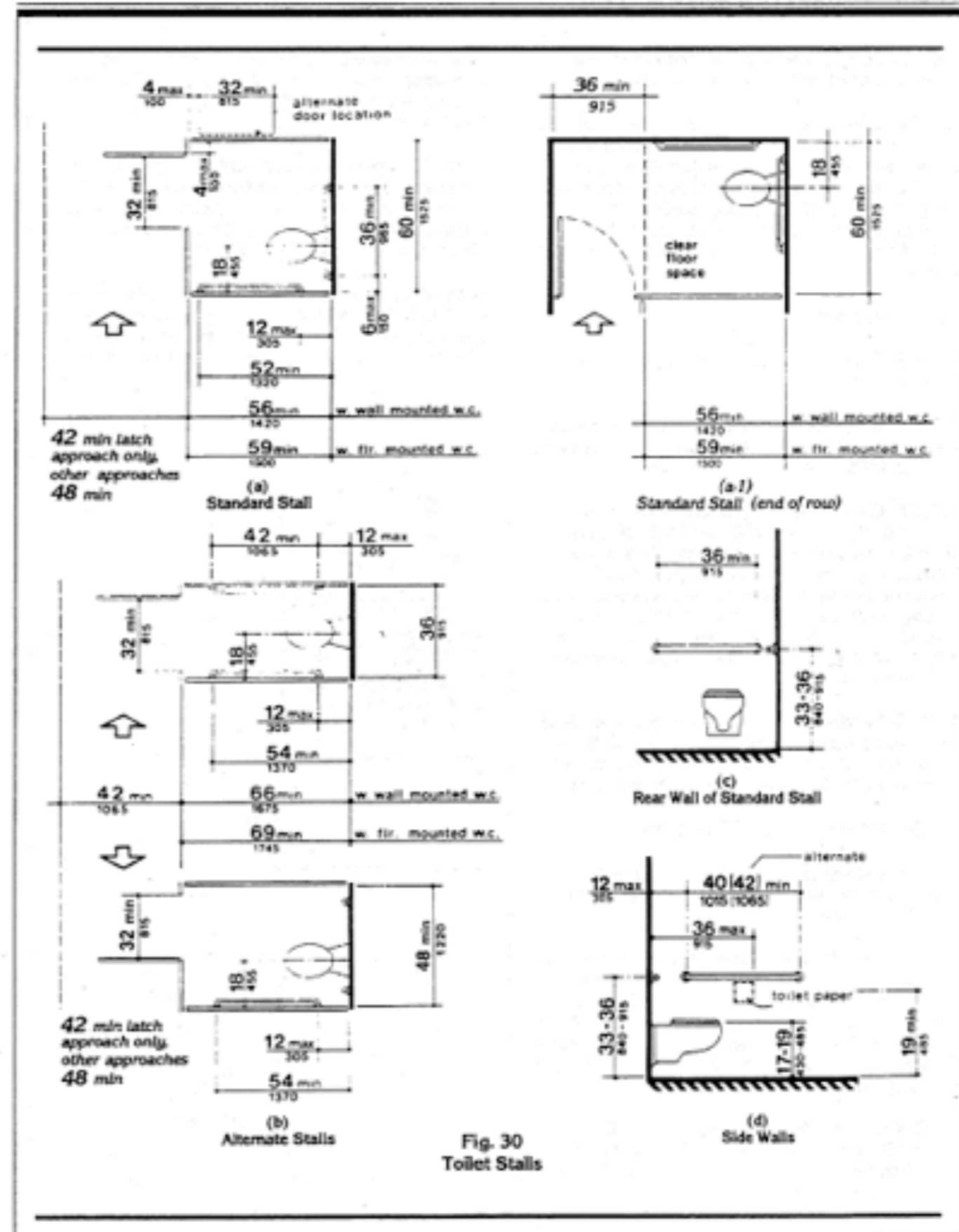


~1.5% of population uses a wheelchair (2005)

(www.census.gov/prod/2008pubs/p70-117.pdf)

Architects view of accessibility vs. disability statistics

- code compliance
- largely about mobility
- focussed on wheelchairs
- emphasis on toilet rooms
- minimum = maximum

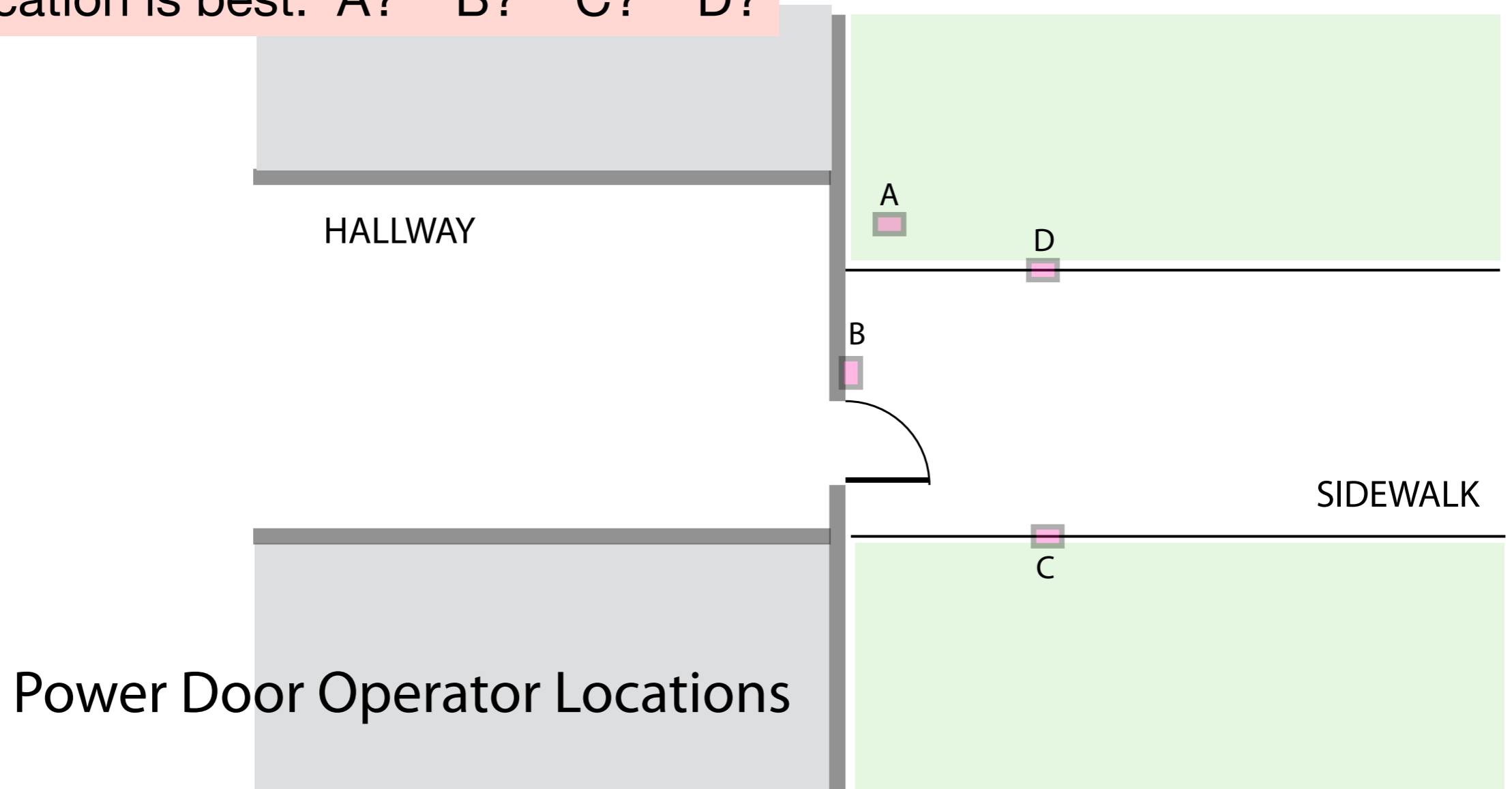


Universal Design: door operator example



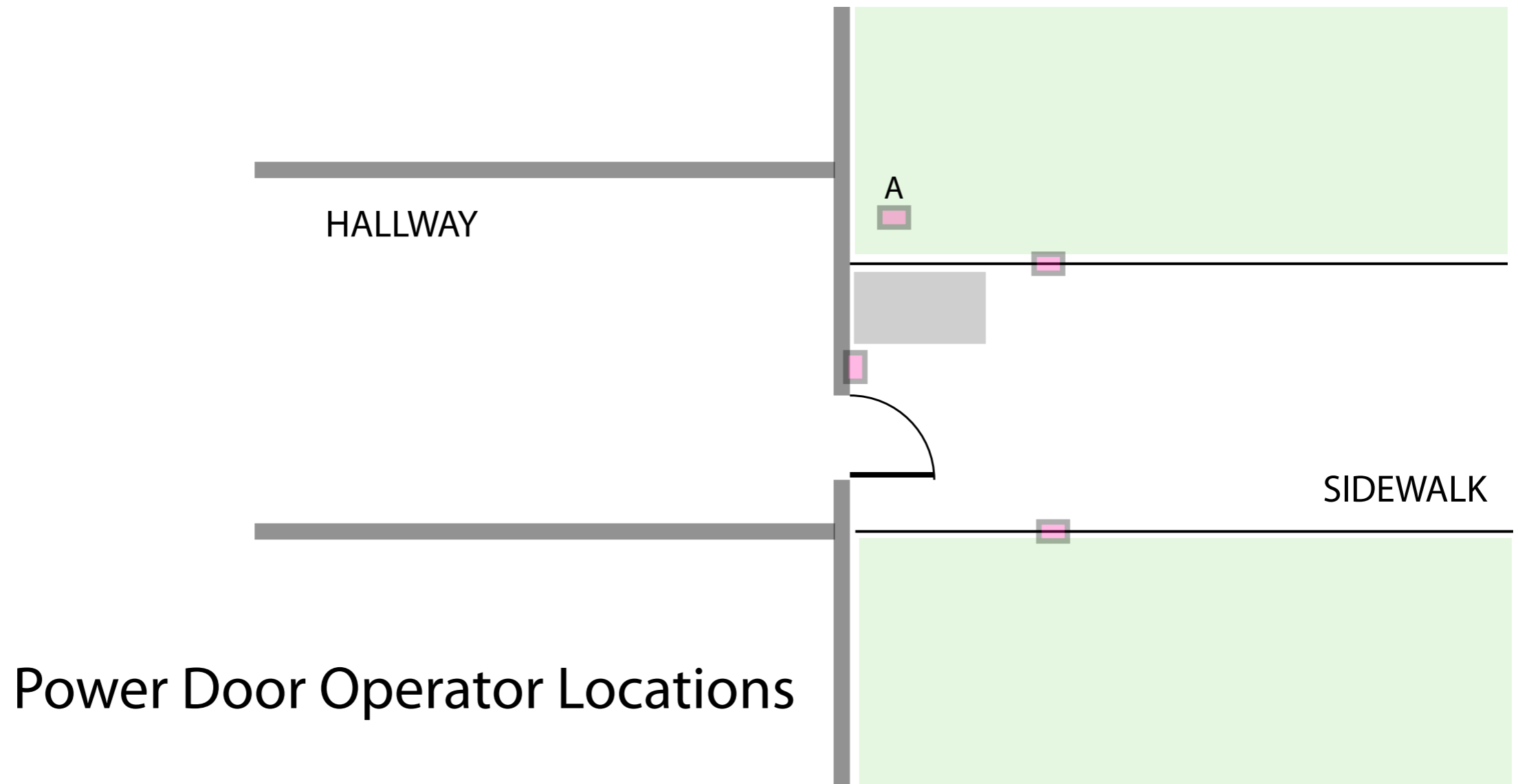
Universal Design: door operator example

Which location is best: A? B? C? D?



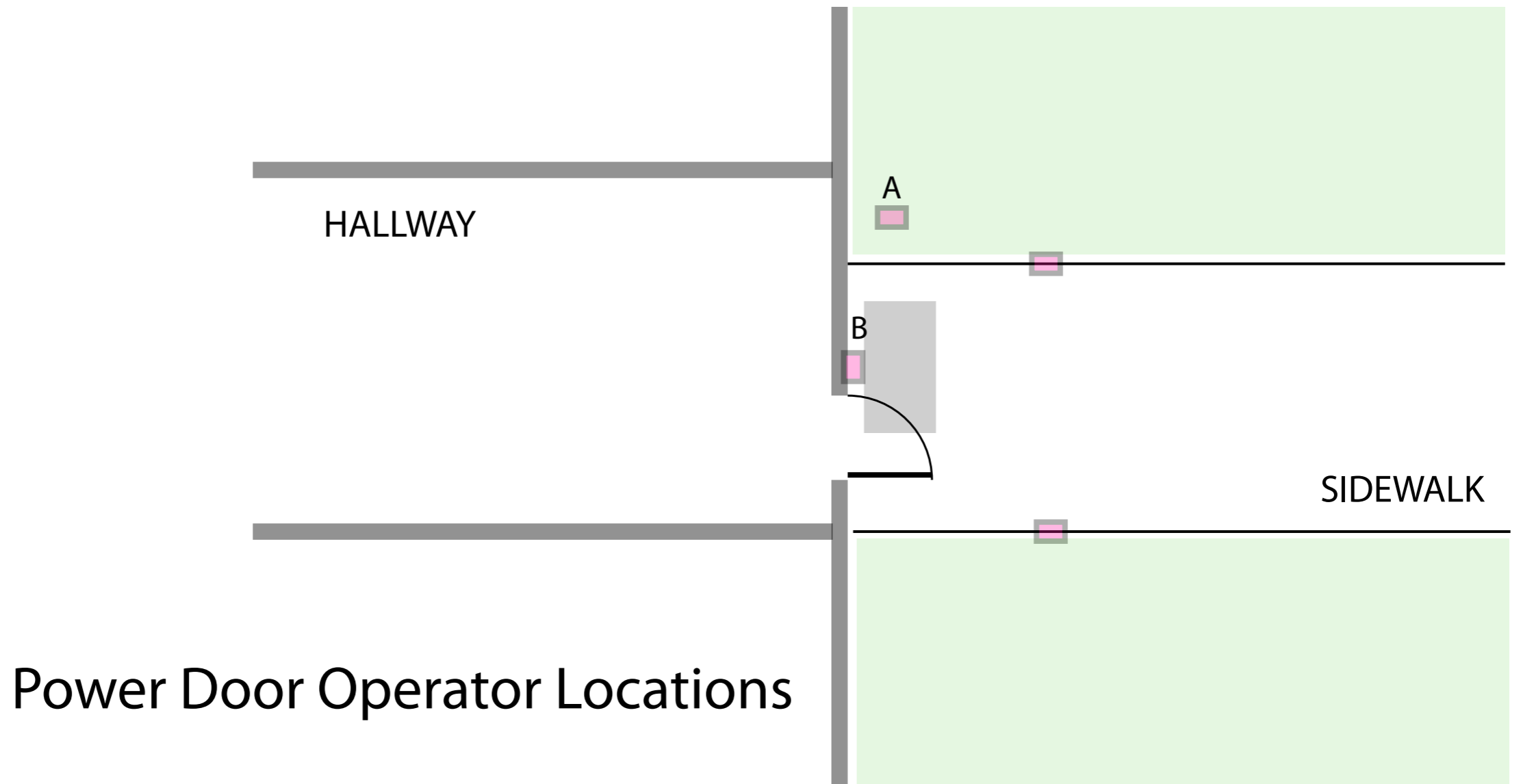
Where now? Going beyond the standards...

Universal Design: door operator example



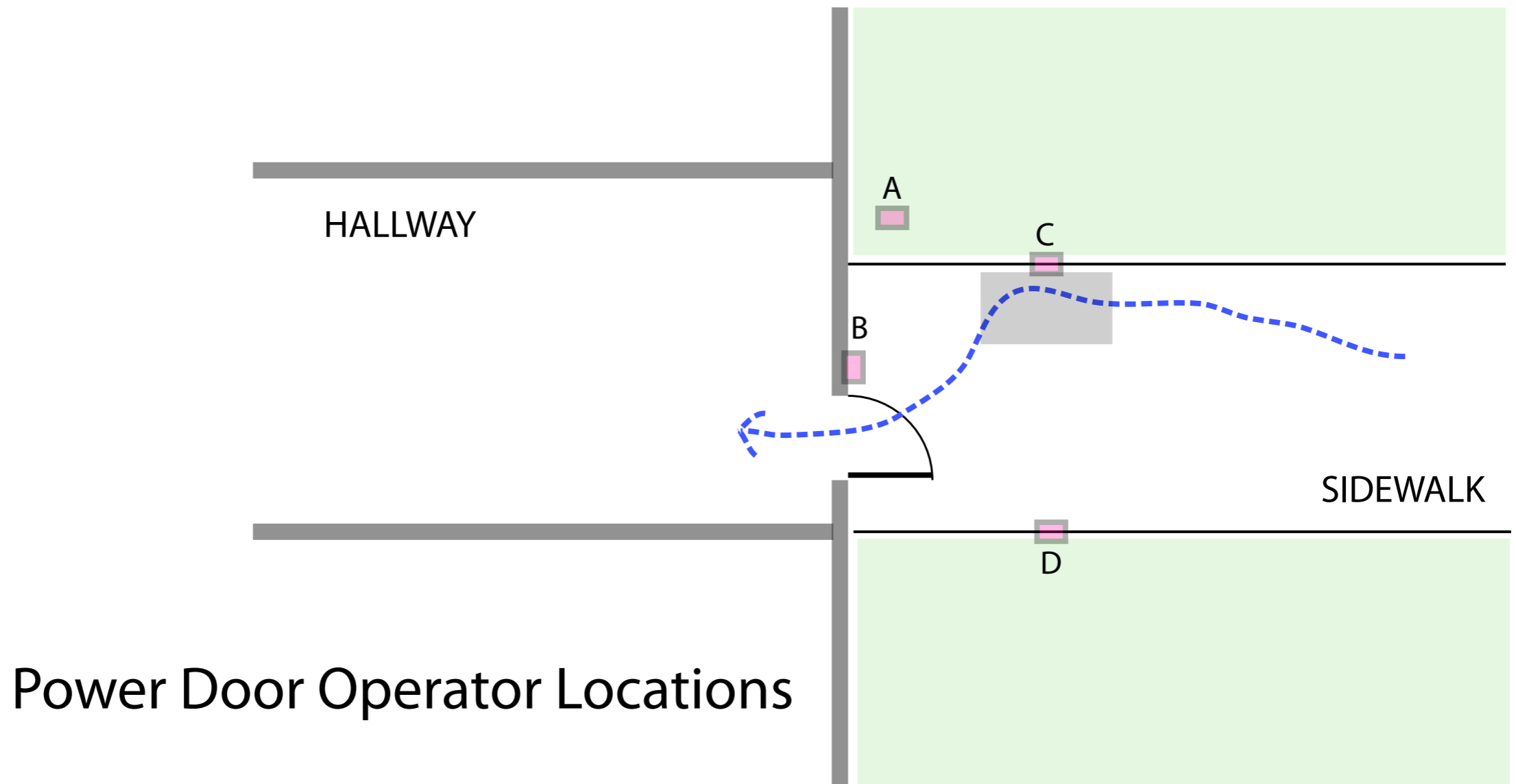
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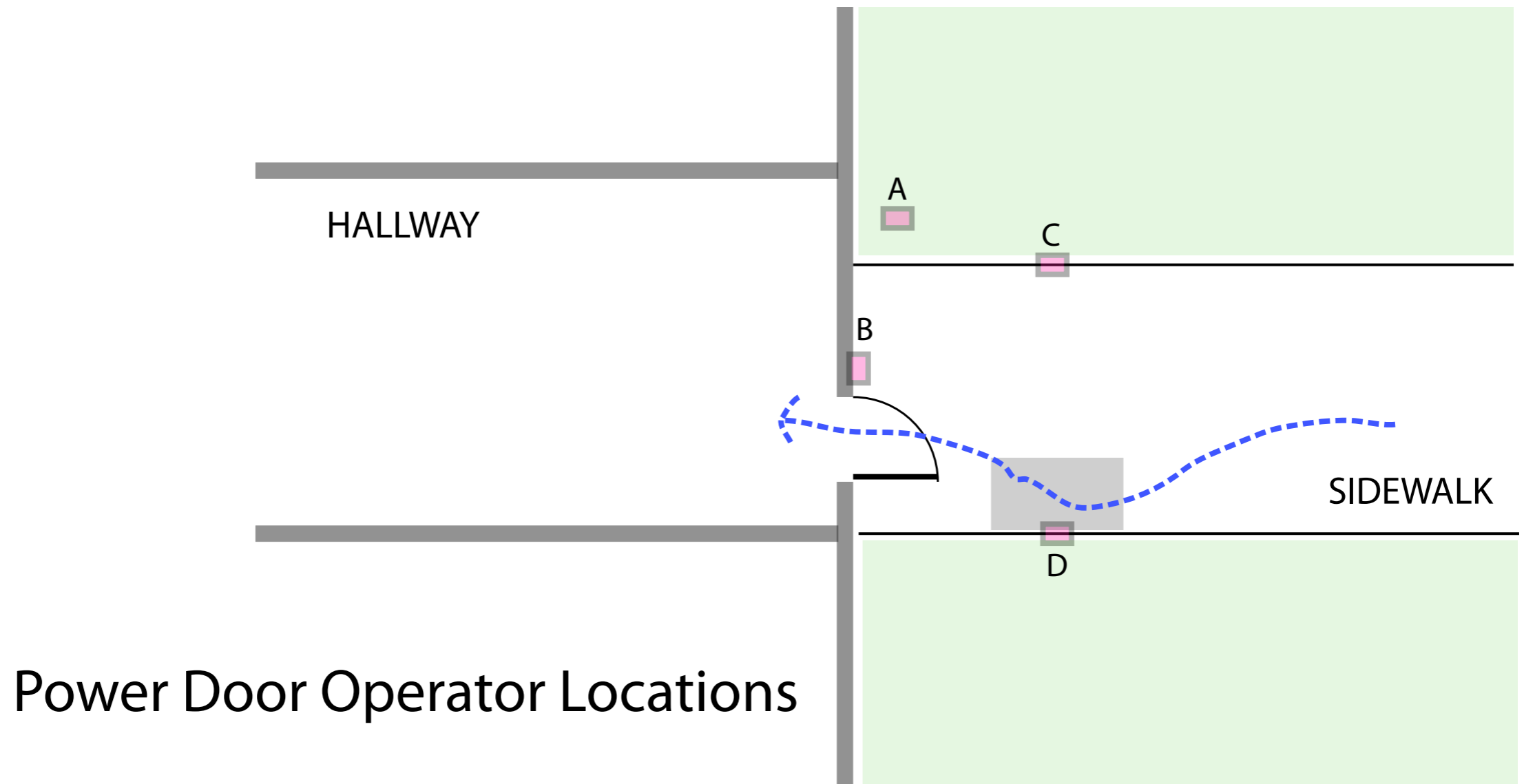
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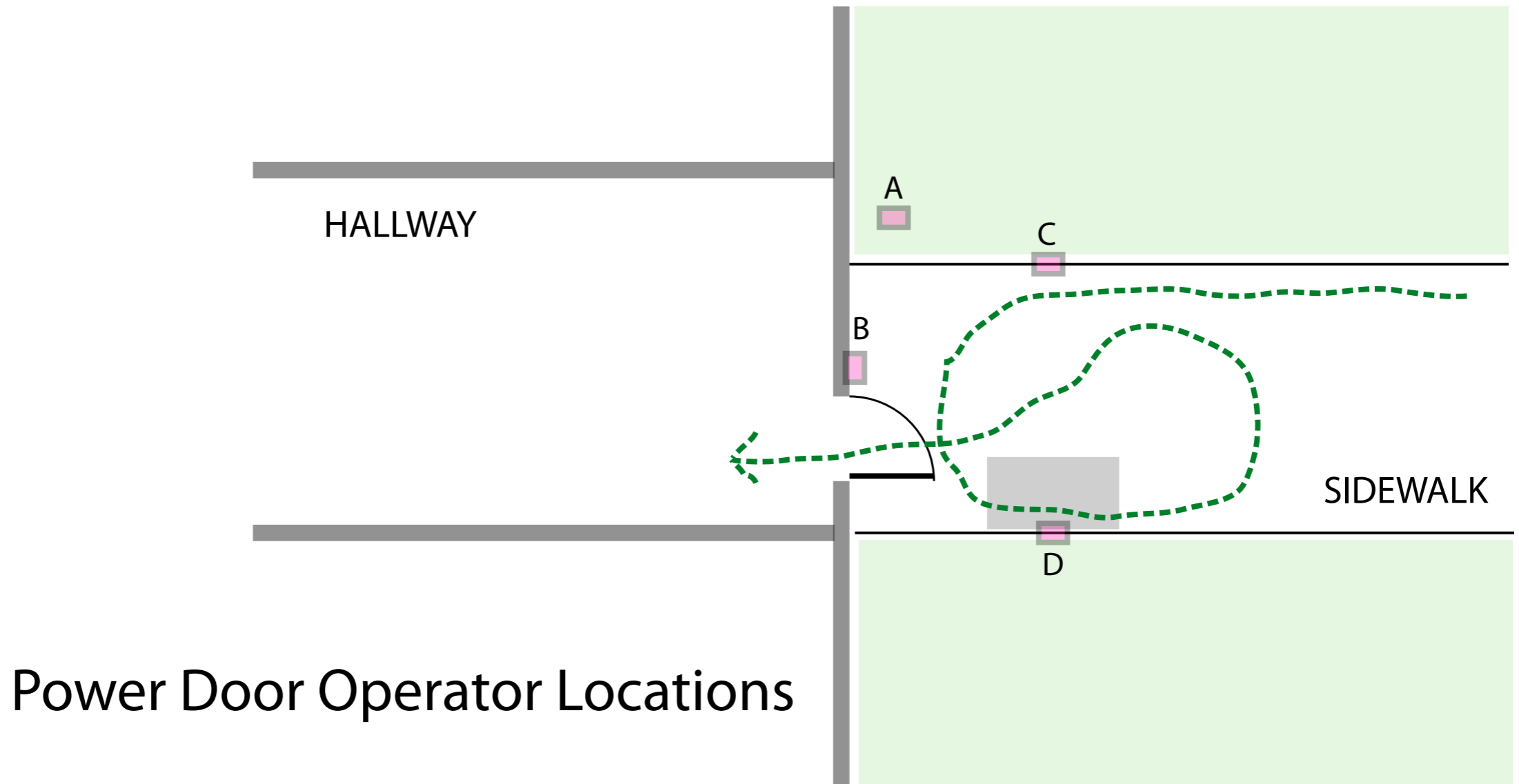
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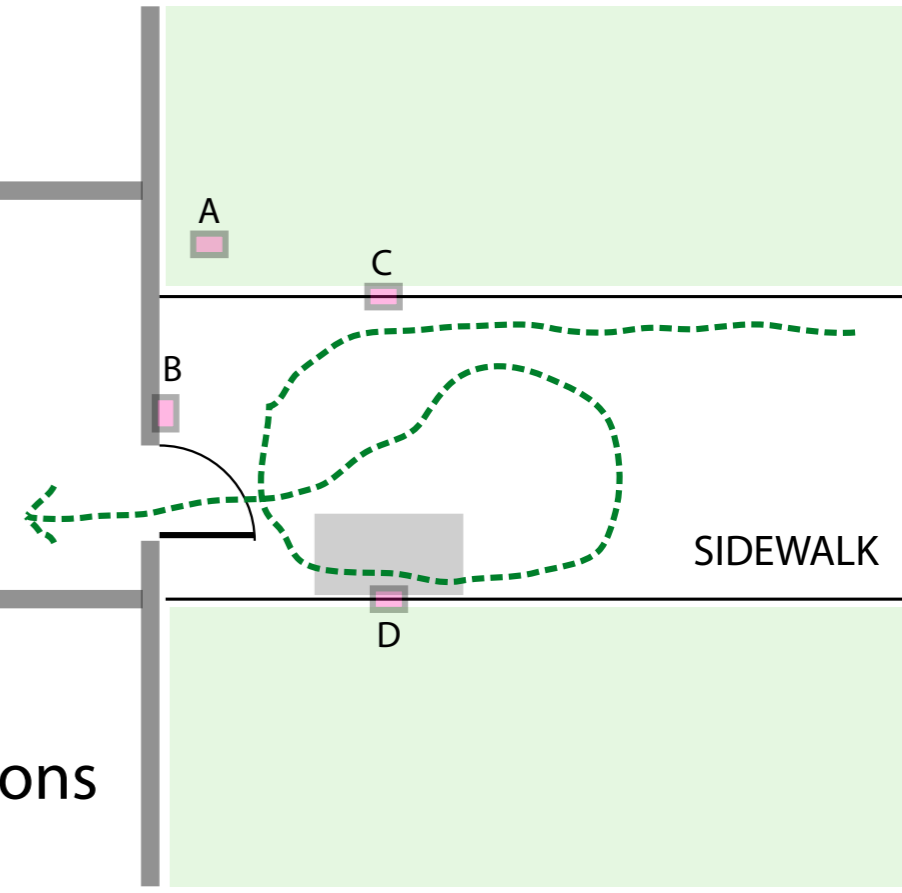
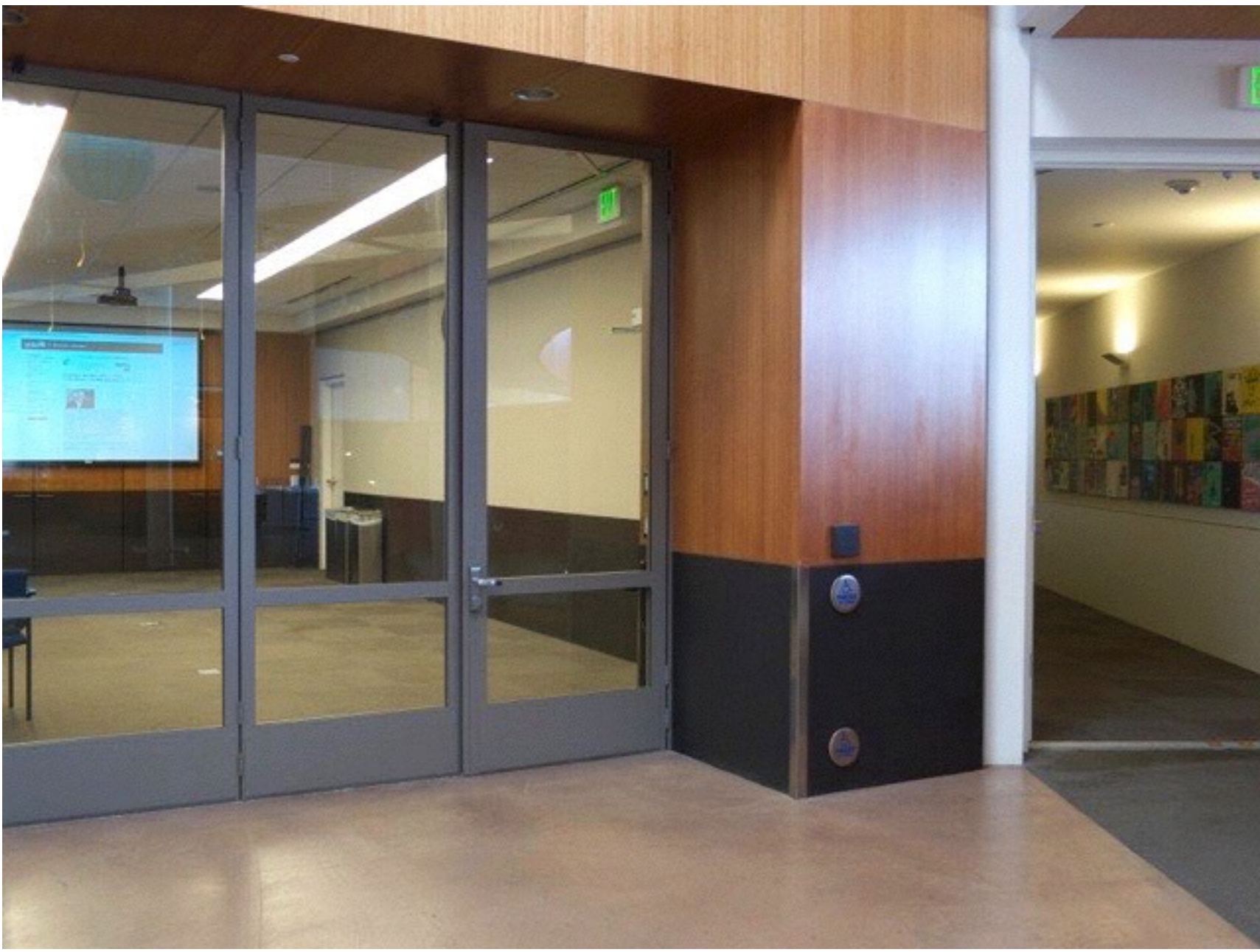
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Universal Design: door operator example



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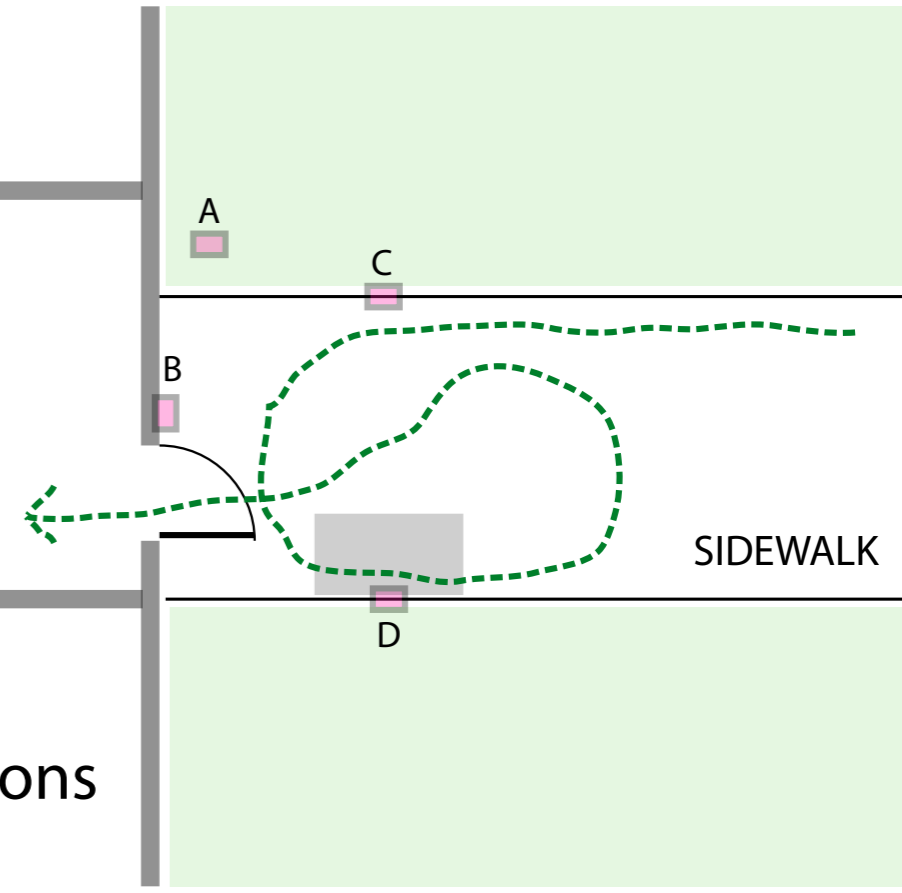
Universal Design: meeting broader challenges - door operator case study



Power Door Operator Locations

Where now? Going beyond the standards...

Universal Design: meeting broader challenges - door operator case study



Power Door Operator Locations

Where now? Going beyond the standards...

Seven Principles of Universal Design

1. Equitable Use:

The design is useful and marketable to people with diverse abilities.

2. Flexibility in Use:

The design accommodates a wide range of individual preferences and abilities.

3. Simple and Intuitive:

Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

4. Perceptible Information:

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

5. Tolerance for Error:

The design minimizes hazards and the adverse consequences of accidental or unintended actions.

6. Low Physical Effort:

The design can be used efficiently and comfortably and with a minimum of fatigue.

7. Size and Space for Approach and Use:

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Seven Principles of Universal Design

4. Perceptible Information:

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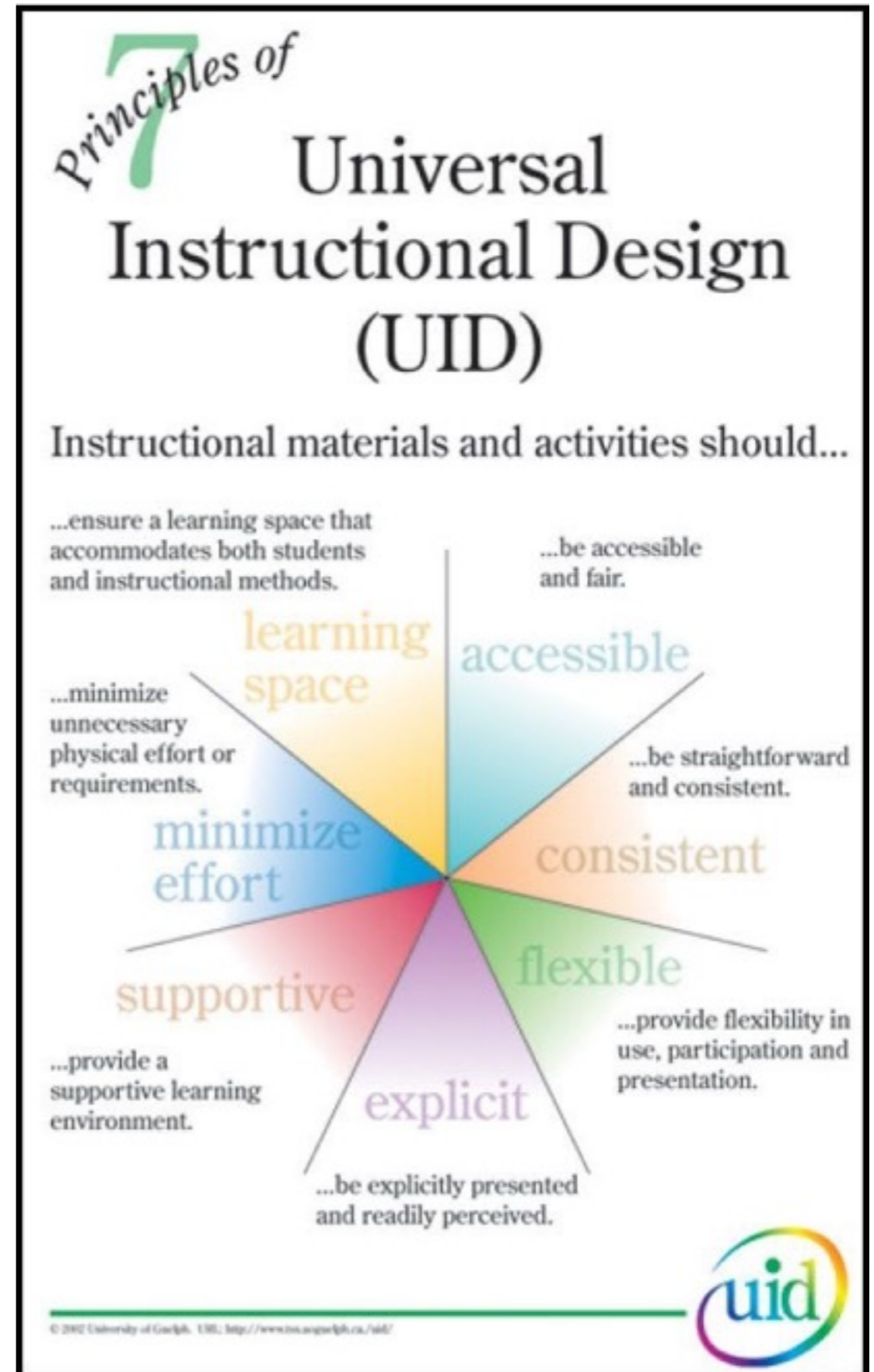
Importance of redundant information: visual and aural, for example, as with transit information which is presented on the PA system as well as on the reader board.



Seven Principles of Universal Design

Extension of Universal Design to other fields

The Universal Design movement has jumped to many other fields, most notably curriculum design and software design.



Bear in mind the range of expression of each disability:

full hearing

hard of hearing

deafness



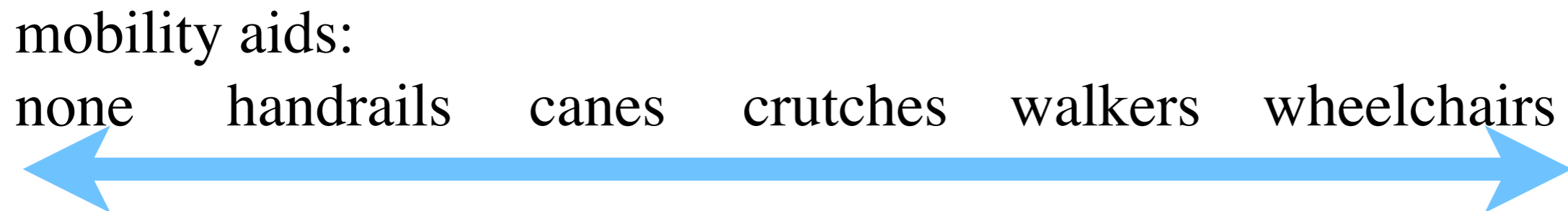
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(from http://www.design.ncsu.edu/cud/univ_design/princ_overview.htm and other sources)

**These don't always apply well in design fields.
Perhaps follow them up...**

Universal Design: Four Questions

- **Is it universal?**
 - Is it designed for a wide range of abilities and needs?
- **Is it effective?**
 - Does it actually work for the specific needs?
 - Has it been tested or at least reviewed by representatives of a wide range of users?
 - Is it supported by research, design standards, or other sources?
- **Is it welcoming and inclusive?**
 - Does it feel natural and comfortable for all users?
 - Does it discriminate unnecessarily on the basis of ability?
 - Does it give the impression of disability-based discrimination?
- **Will the design solution be appreciated over time?**
 - Is it “loveable”? Is it delightful for all users?
 - Can it accommodate change through flexibility, adaptability, or adjustability?

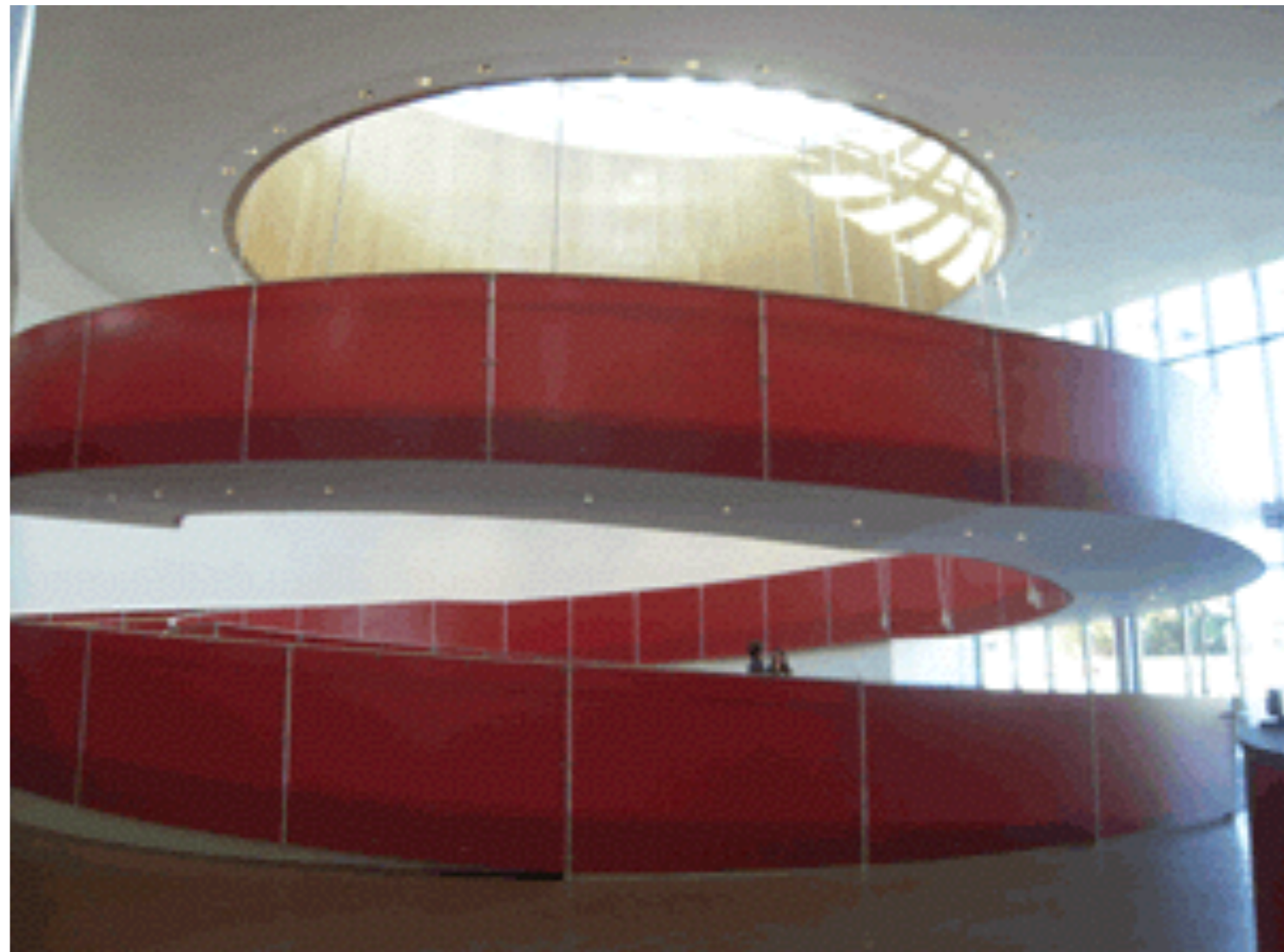
Premise #3: it's about design, about delight, and even about beauty

Some of the top designers actively use the principles of universal design

Ed Roberts Campus - Leddy Maytum Stacy



SF MOMA Addition - Snøhetta



Universal Design: Inclusiveness

- Welcoming?



Universal Design: Inclusiveness

- Welcoming?
- Is it too “special”?



Universal Design: Inclusiveness

- Welcoming?
- Is it too “special”?
- **Does it make a spectacle of those who use it?**
- **Is it socially isolating?**



Universal Design: Inclusiveness

- Welcoming?
- Is it too “special”?
- Does it make a spectacle of those who use it?
- Is it socially isolating?
- Is it architecturally **delightful**? Beauty for all as a characteristic of Universal Design



Compliance: Conventional Approach - ADA standard for controls

309 Operable Parts **309.1 General.** *Operable parts* shall comply with 309. **309.2 Clear Floor Space.** A clear floor or ground *space* complying with 305 shall be provided. **309.3 Height.** *Operable parts* shall be placed within one or more of the reach ranges specified in 308.

309.4 Operation. *Operable parts* shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate *operable parts* shall be 5 pounds (22.2 N) maximum.

EXCEPTION: Gas pump nozzles shall not be required to provide *operable parts* that have an activating force of 5 pounds (22.2 N) maximum.

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Pattern:

Can the control be operated with a closed fist?



Many standard plumbing, electrical, and hardware controls can be. However, others can't, in particular door knobs, thumb latch locks, faucets that require grip, and so forth.

Universal Design: Integrated design

Integrated Design to solve multiple problems simultaneously through an integrated team

Who: Integrated design team

Owner: professional staff
End users

Design team:
architect
engineers and other consultants

Contractor
and key subcontractors



Ed Roberts campus, Berkeley, CA
Leddy Maytum Stacy

Universal Design: Hearing

PATTERNS:

Protection from Fire

Provide visual alarms as part of the main fire alarm system. Provide bed shakers in sleeping areas.

Assistive Listening Systems

Provide personal amplification systems in all assembly areas and all areas with amplification systems.

Excellent Communication Acoustics

Design the room acoustics to maximize sound quality for all. In rooms designed for discussion, design for two-way acoustics. In rooms limited to presentation, maximize for presenter-receiver acoustics. In office environments, control ambient noise.

Line of Sight

Seeing is doubly important for people with hearing impairments. With diminished sound, communications, safety, and much else depends of visual connection.

HEARING PATTERNS

Fire Protection

Assistive Listening

Communication Acoustics

Line of Sight

Universal Design: Hearing & safety



HEARING PATTERNS

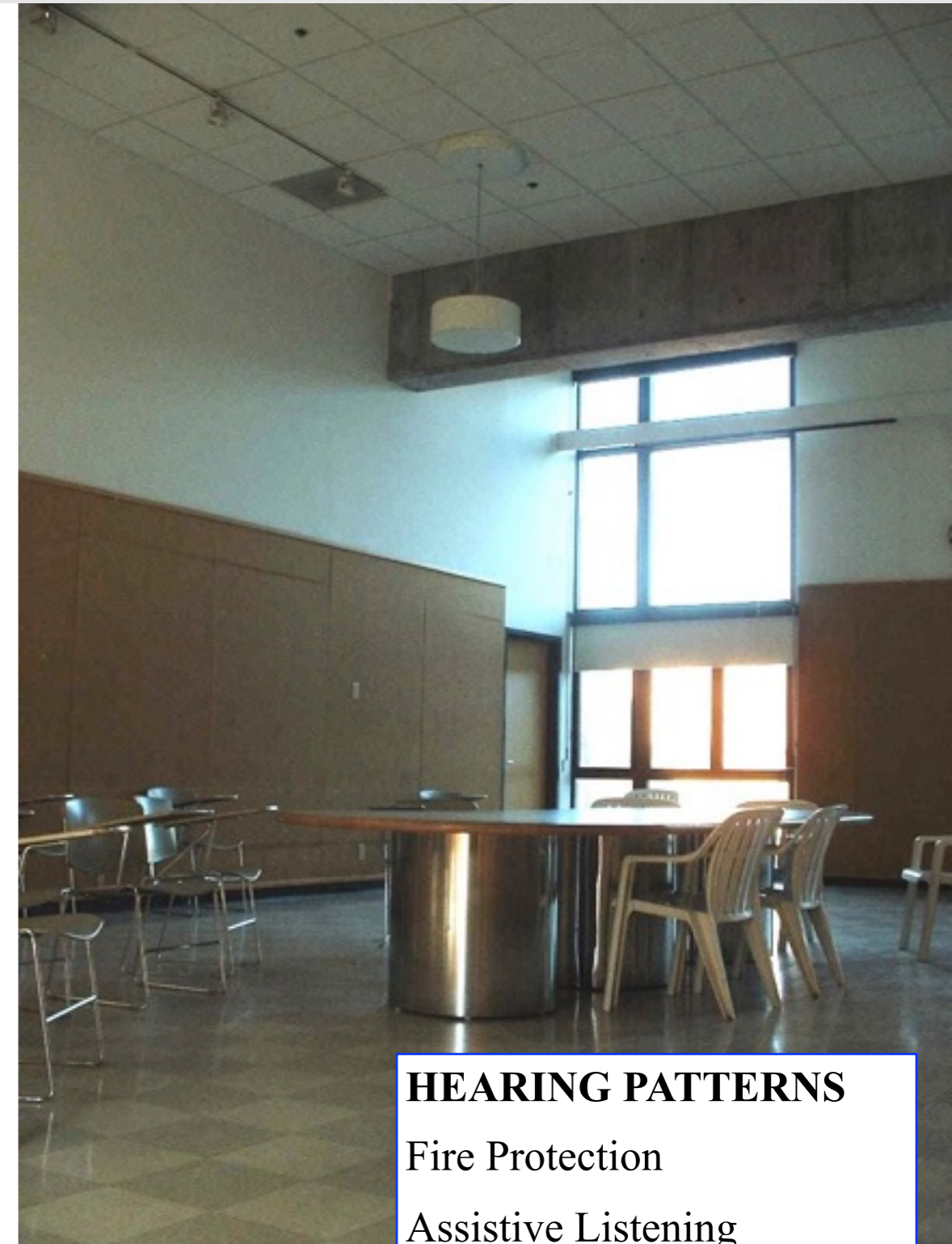
Fire Protection

Assistive Listening

Communication Acoustics

Line of Sight

Universal Design: Hearing - Why do some rooms sound better?



HEARING PATTERNS

Fire Protection

Assistive Listening

Communication Acoustics

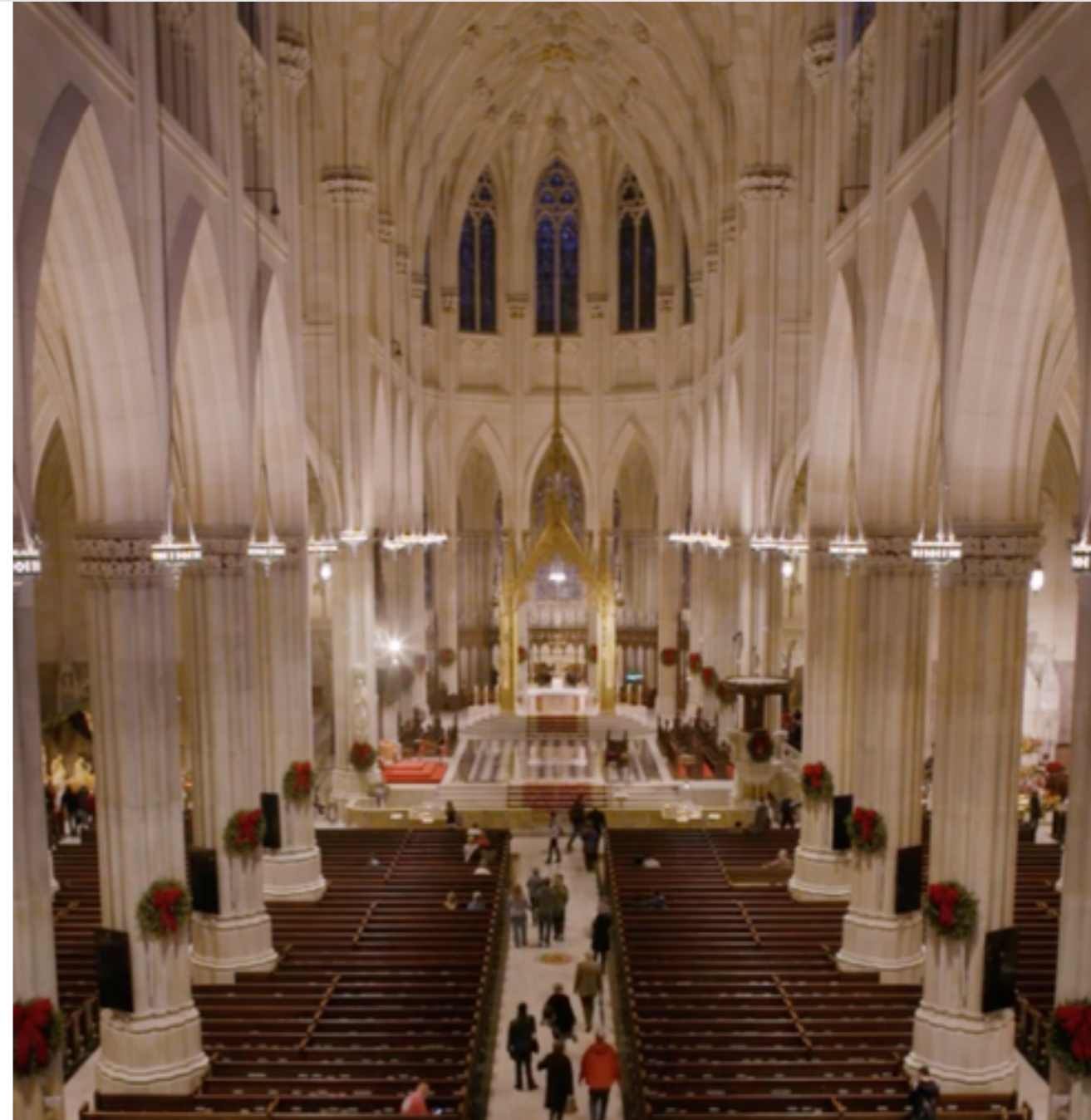
Line of Sight

Universal Design: Hearing - aural delight

Example: acoustics

- Social isolation of deafness
- Importance of acoustics to hard-of-hearing (most of us at some point in our lives)
- Importance of excellent communication acoustics and line of sight in learning environments
- Importance of acoustics for people who are blind, who use echo-location (using echoes, similar to sonar) and other auditory cues
- Hearing in learning: everyone
- Universal appreciation of acoustical delight, see

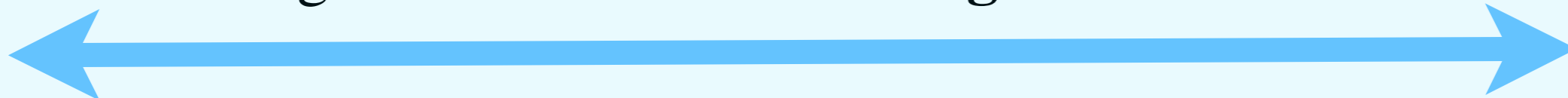
<http://www.nytimes.com/interactive/2015/12/29/arts/sound-architecture.html>



full hearing

hard of hearing

full deafness



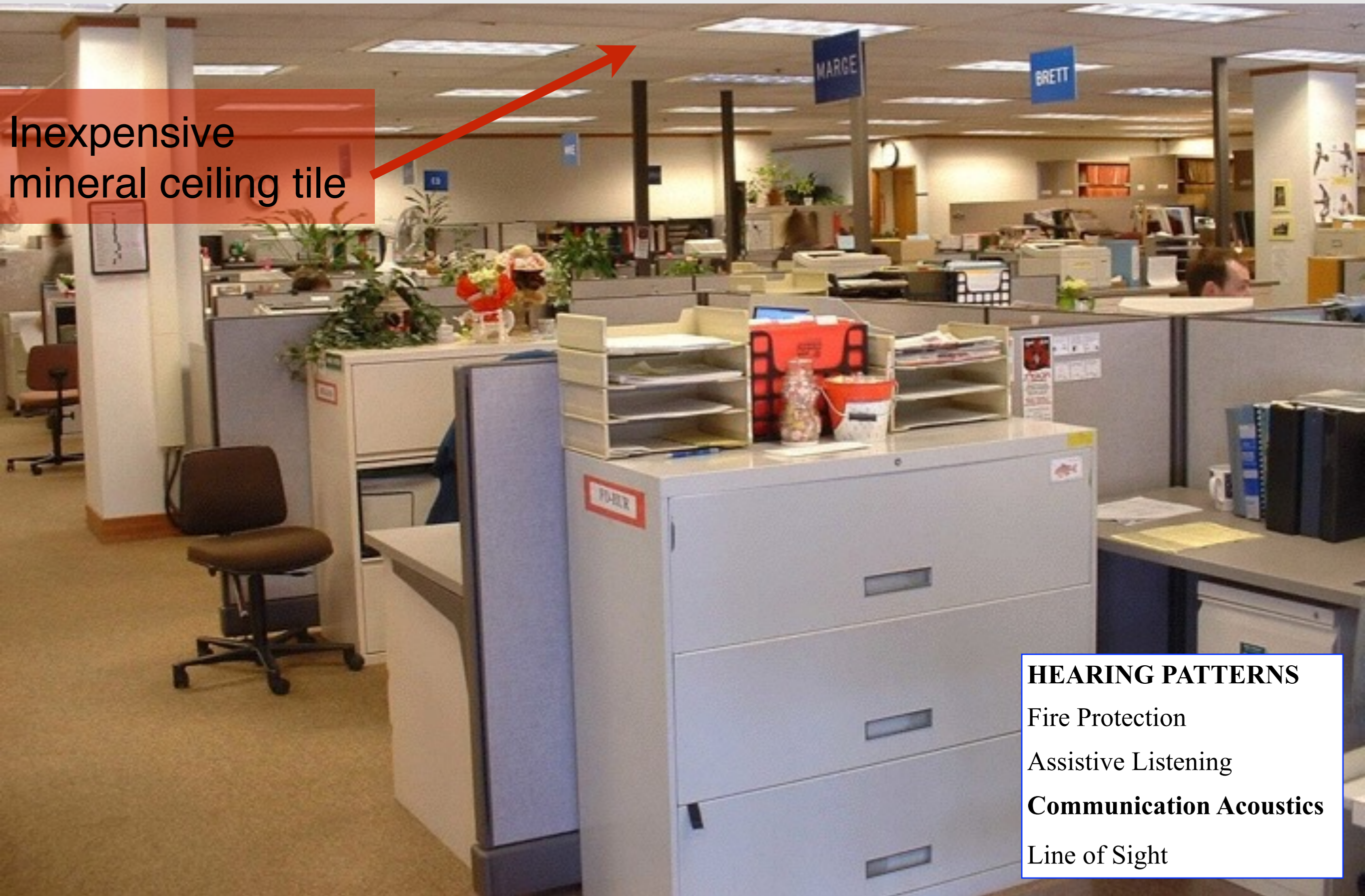
Universal Design: Hearing - office materials



Acoustical purpose of cubicles and cube farms?

Universal Design: Hearing - office materials

Inexpensive mineral ceiling tile



HEARING PATTERNS
Fire Protection
Assistive Listening
Communication Acoustics
Line of Sight

Acoustical purpose of cubicles and cube farms?

Universal Design: Hearing - office materials

Inexpensive mineral ceiling tile

Hard, solid office partitions

HEARING PATTERNS
Fire Protection
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Acoustical purpose of cubicles and cube farms?

Universal Design: Hearing - office materials

Inexpensive mineral ceiling tile

Hard, solid office partitions

Thin glued-down carpet

HEARING PATTERNS
Fire Protection
Assistive Listening
Communication Acoustics
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Acoustical purpose of cubicles and cube farms?

Which letters carry meaning in words?

Vowels?

Consonants?

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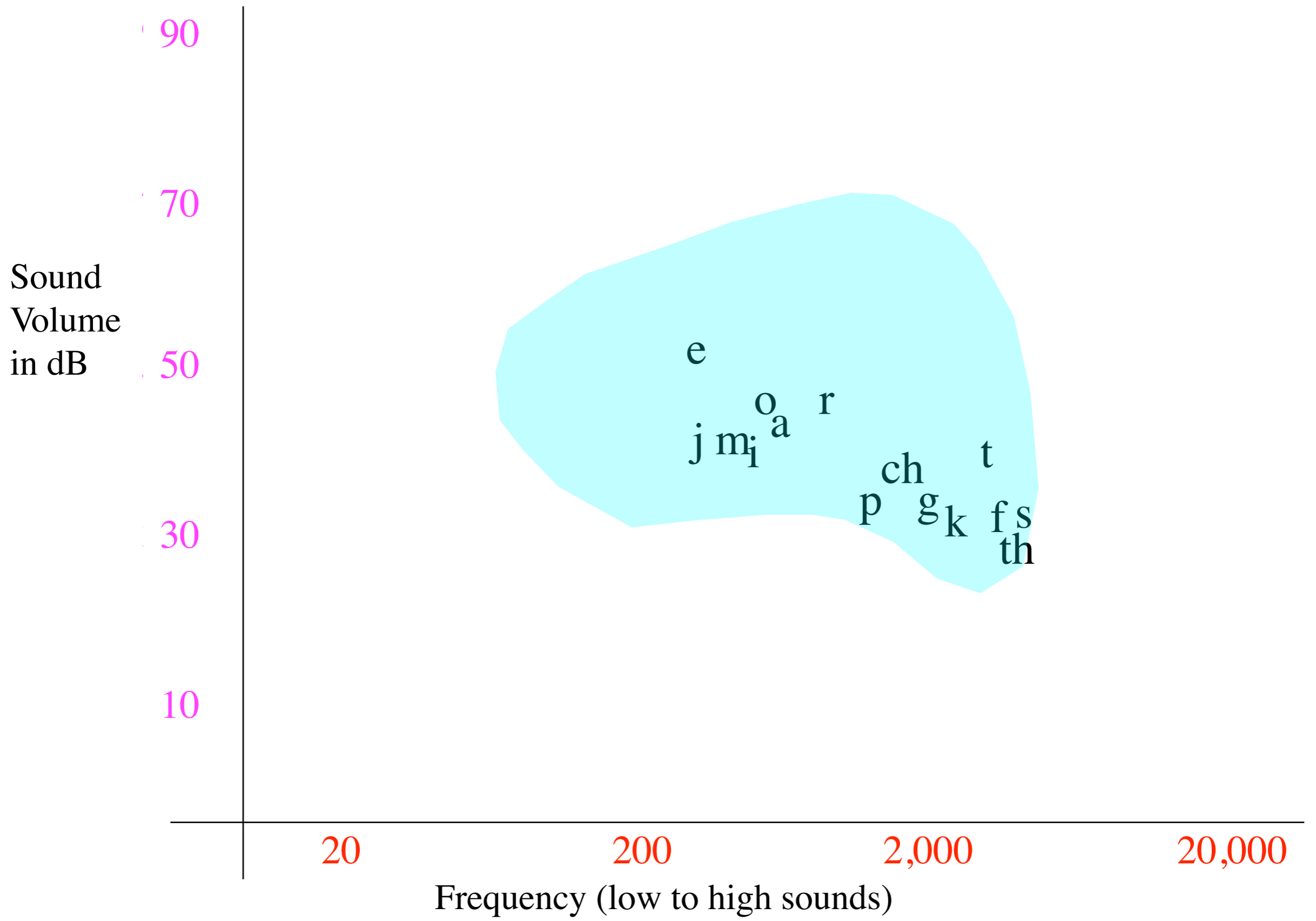
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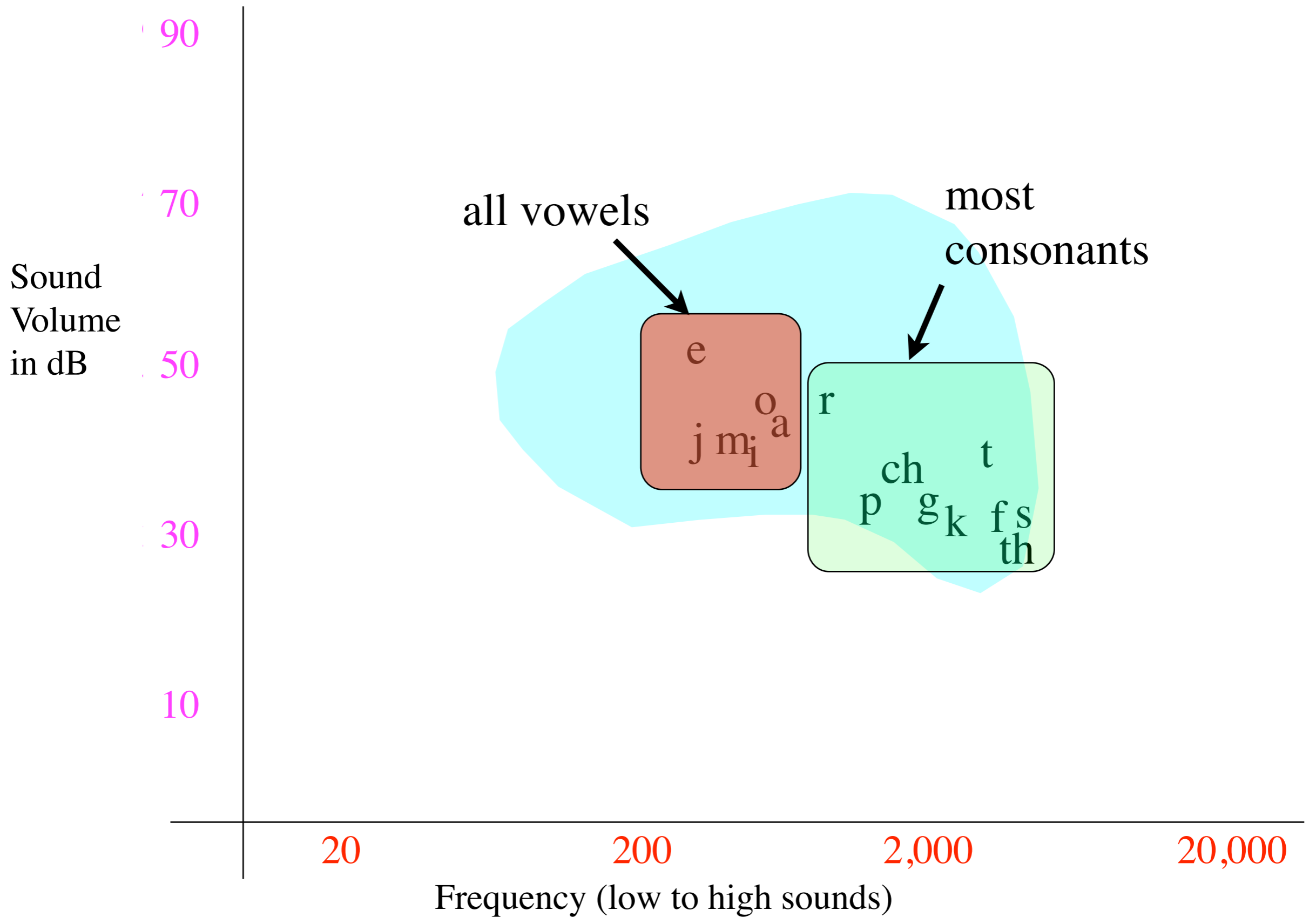
Evidence:



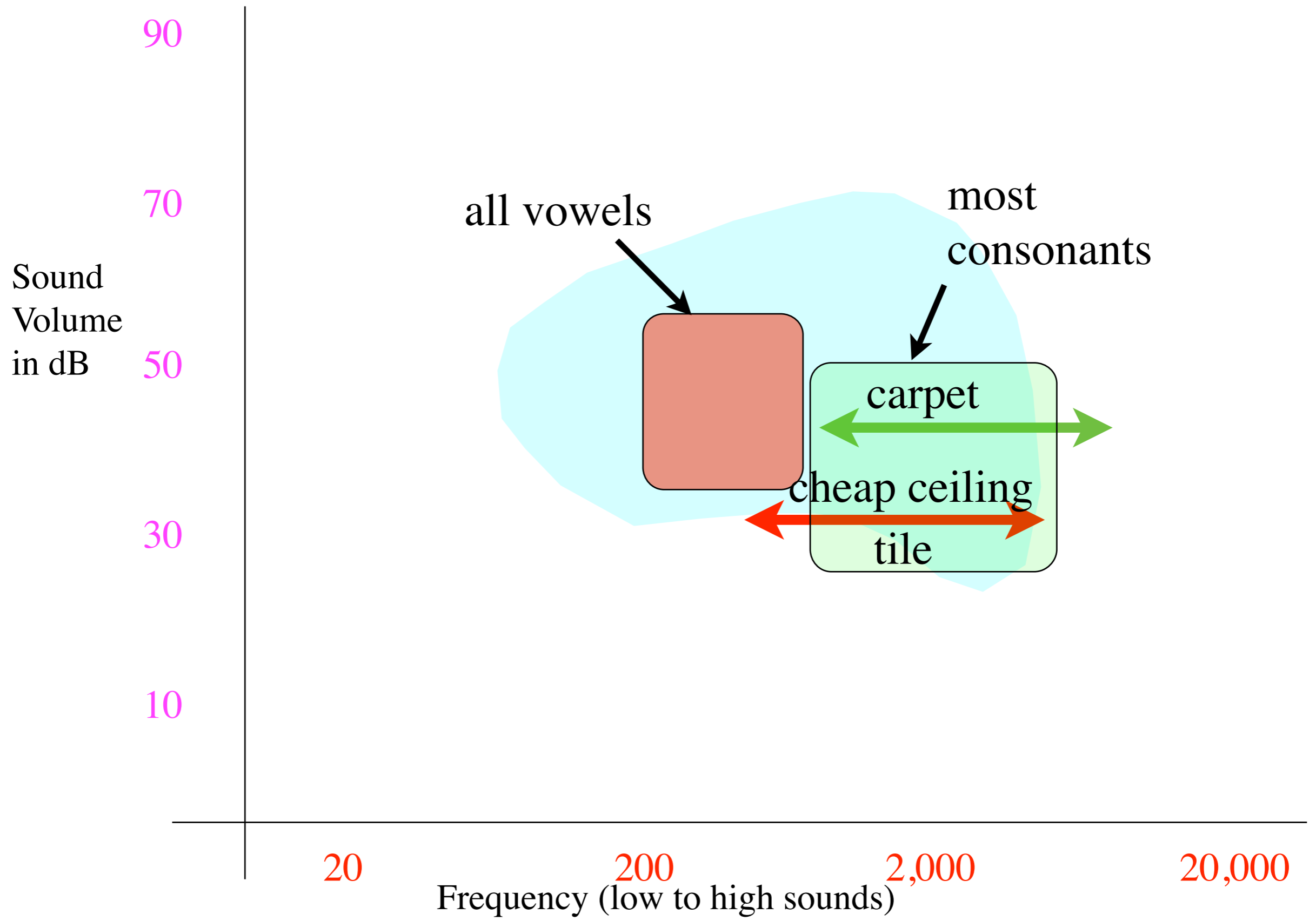
Universal Design: Hearing



Universal Design: Hearing



Universal Design: Hearing



Universal Design: Hearing and classroom performance

Classroom: reinforce content or remove content?



Universal Design: Hearing and classroom performance

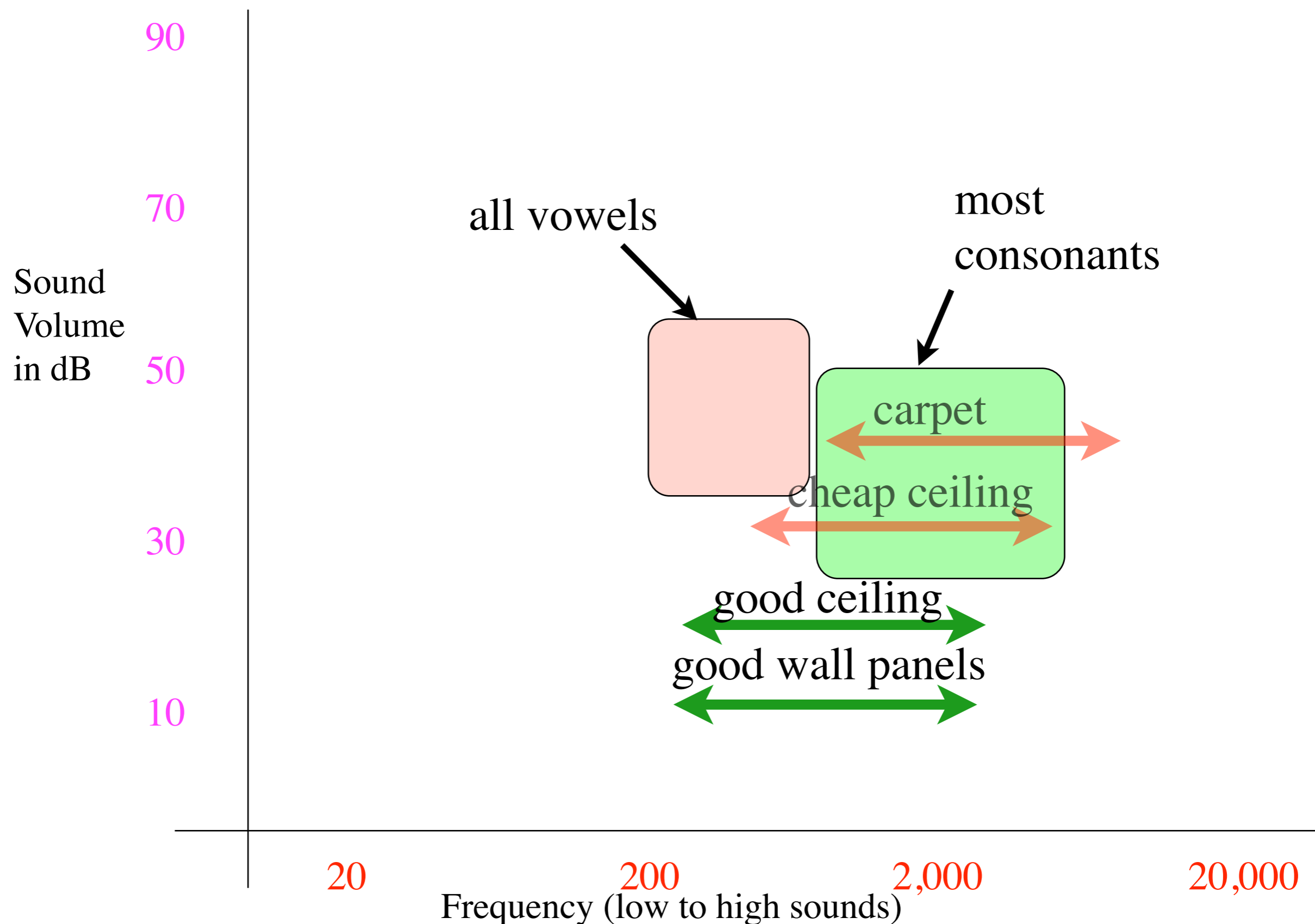
inexpensive mineral ceiling tile



concrete masonry walls

glue-down carpet or composition tile

Universal Design: Hearing and classroom performance



Full acoustic design involves more complex placement of absorptive material ...

- shaping of the room to increase beneficial reflections
- specific performance of each material
- control of HVAC noise
- control of noise transfer through walls, floor, and ceilings

... and you, the designer, should learn enough about this subject to ensure success.

Premise #4: you are in the driver's seat

Good architects make every effort to ensure their project's success in all aspects



Universal Design: Mobility

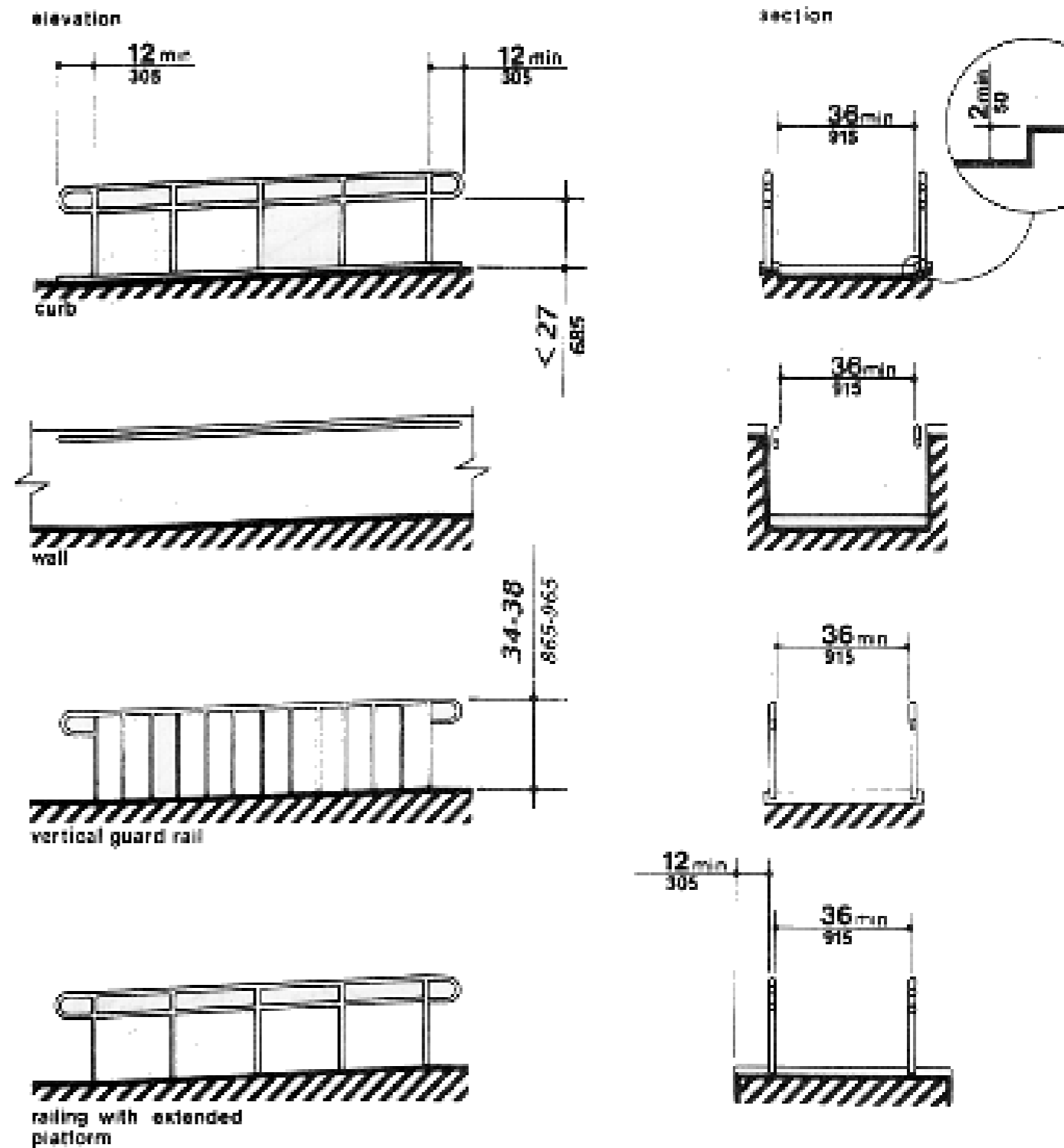


Compliance: ramps

Conventional design:

“pick a ramp from the pictures”

- seldom beautiful
- don't work well for many
- if designed at maximum slope (1:12), almost invariably too steep somewhere along the slope



Conventional design:

“pick a ramp from the pictures”

- seldom beautiful
- don't work well for many
- if designed at maximum slope (1:12), almost invariably too steep somewhere along the slope

Best practice:

- beautiful to look at
- a delight to travel on
- effective for all who use it



Ed Roberts campus, Berkeley, CA
Leddy Maytum Stacy

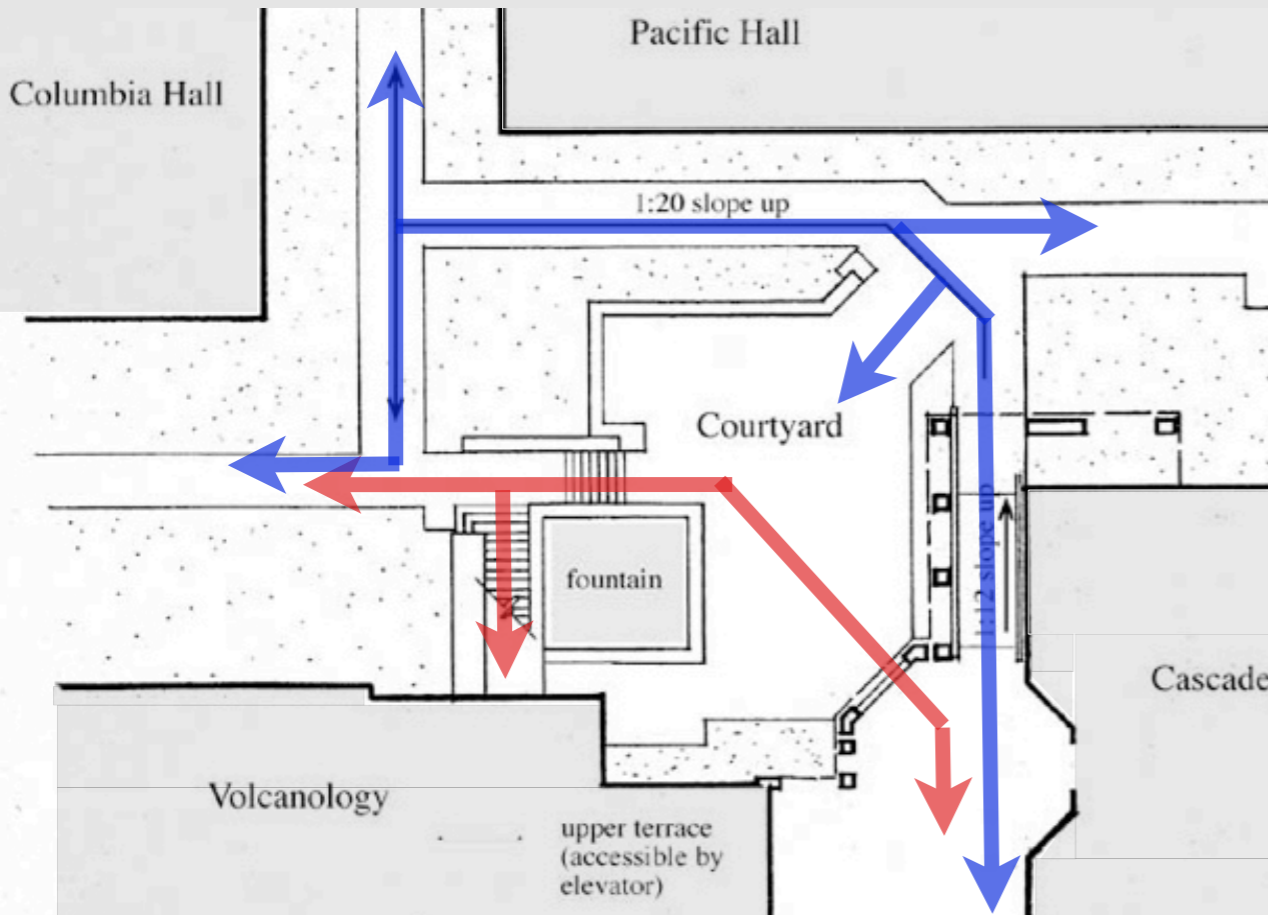
Universal Design: Mobility - We all use ramps (& CED speech)



Universal Design: Mobility - We all use ramps (& CED speech)



Universal Design: Site Mobility Patterns



Integrated Path

Make sure that accessible routes are a meaningful main route used by all to prevent social isolation and to enhance wayfinding

Low Slopes / Short Ramps

Keep slopes at 5 percent or less except for short ramps (up to 12 - 15 feet long)

Shortest Path

Make accessible routes a direct and as short as possible (within the context of Low Slopes / Short Ramps). This suggests integrating grade changes into the direction of desired travel and avoiding back-and-forth ramps.

Easy Climbs

Total vertical ascents of more than about four feet can be very tiring for many people. Avoid them or provide alternative means (such as an elevator).



Universal Design Case: Mobility, Erb Memorial Union Amphitheatre

Is it possible to use 5% slopes to create walks that connect levels without making people loop back and forth?

MOBILITY PATTERNS

Integrated Path

Low Slope/Short Ramps

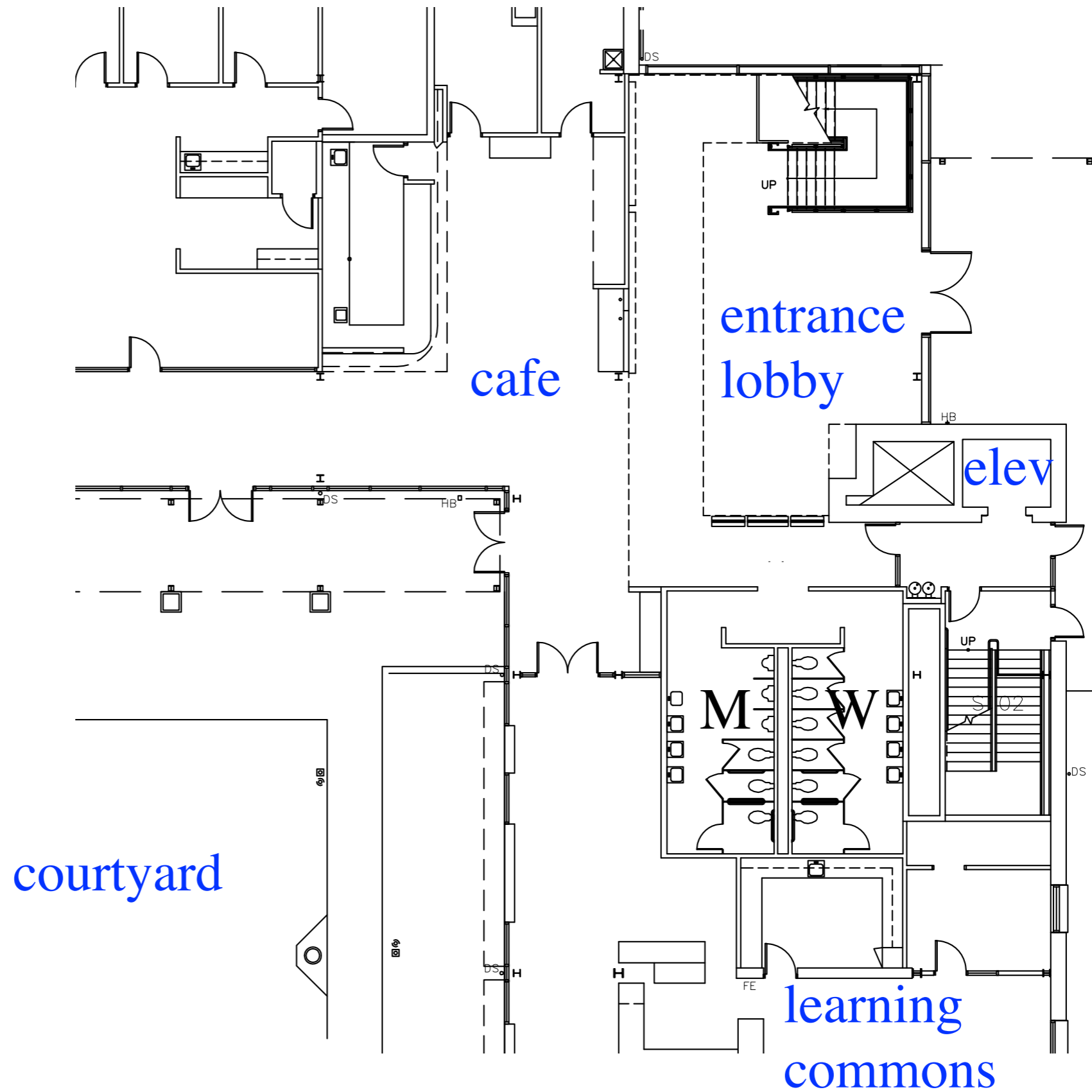
Shortest Path

Easy Climbs

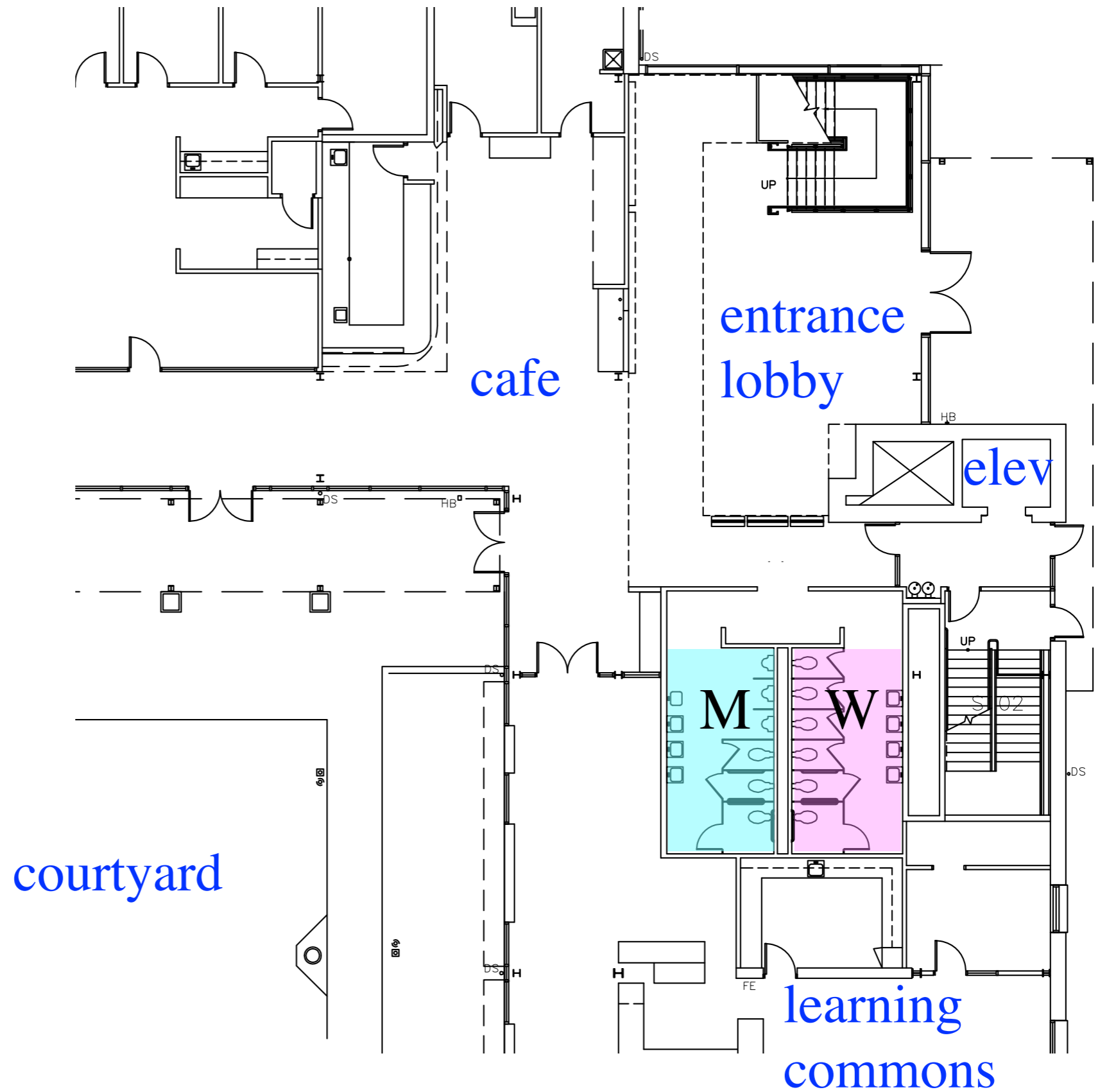


Universal? Welcoming? Effective? Durable?

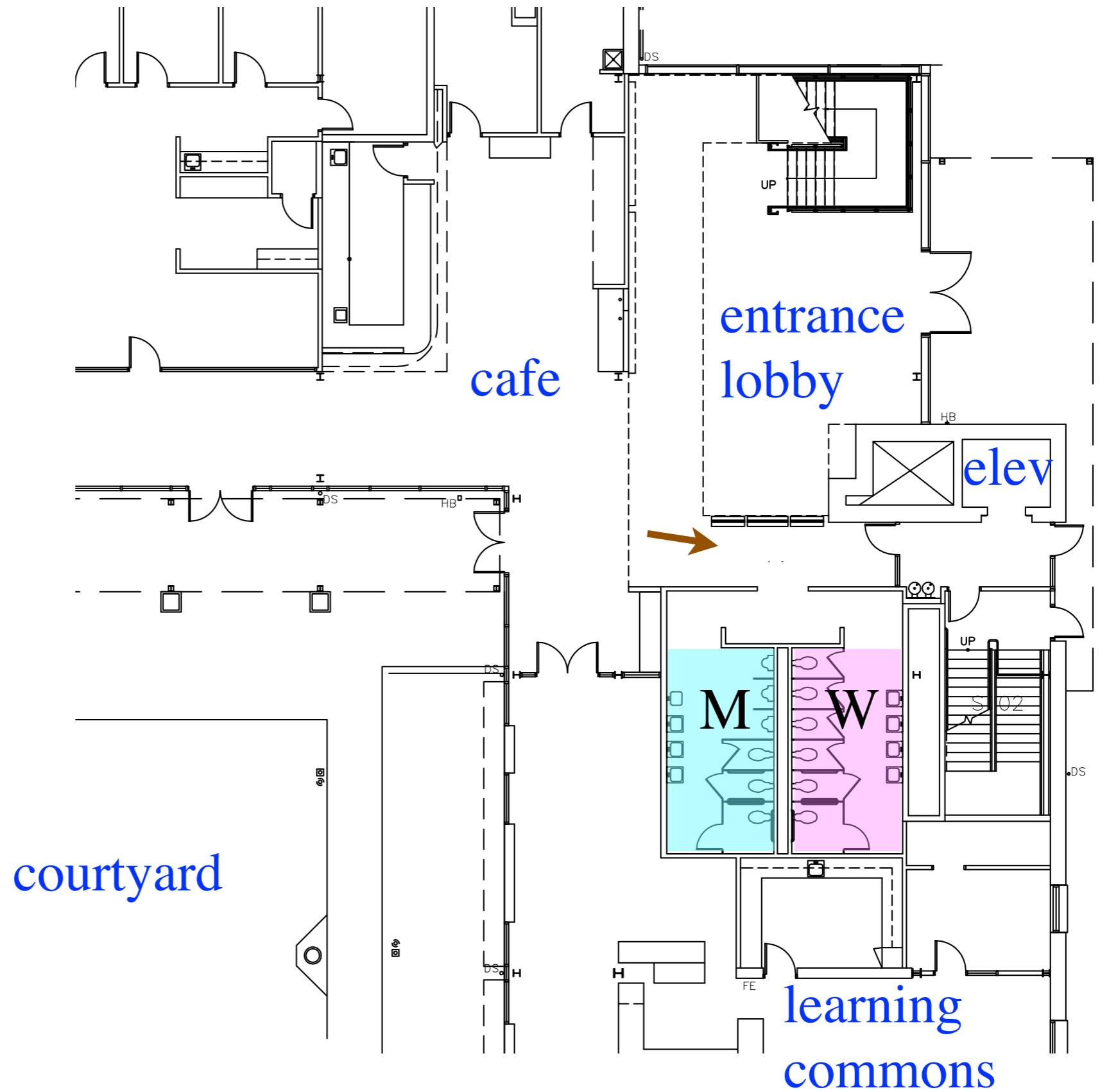
Universal Design Case: Design Integration at HEDCO restrooms



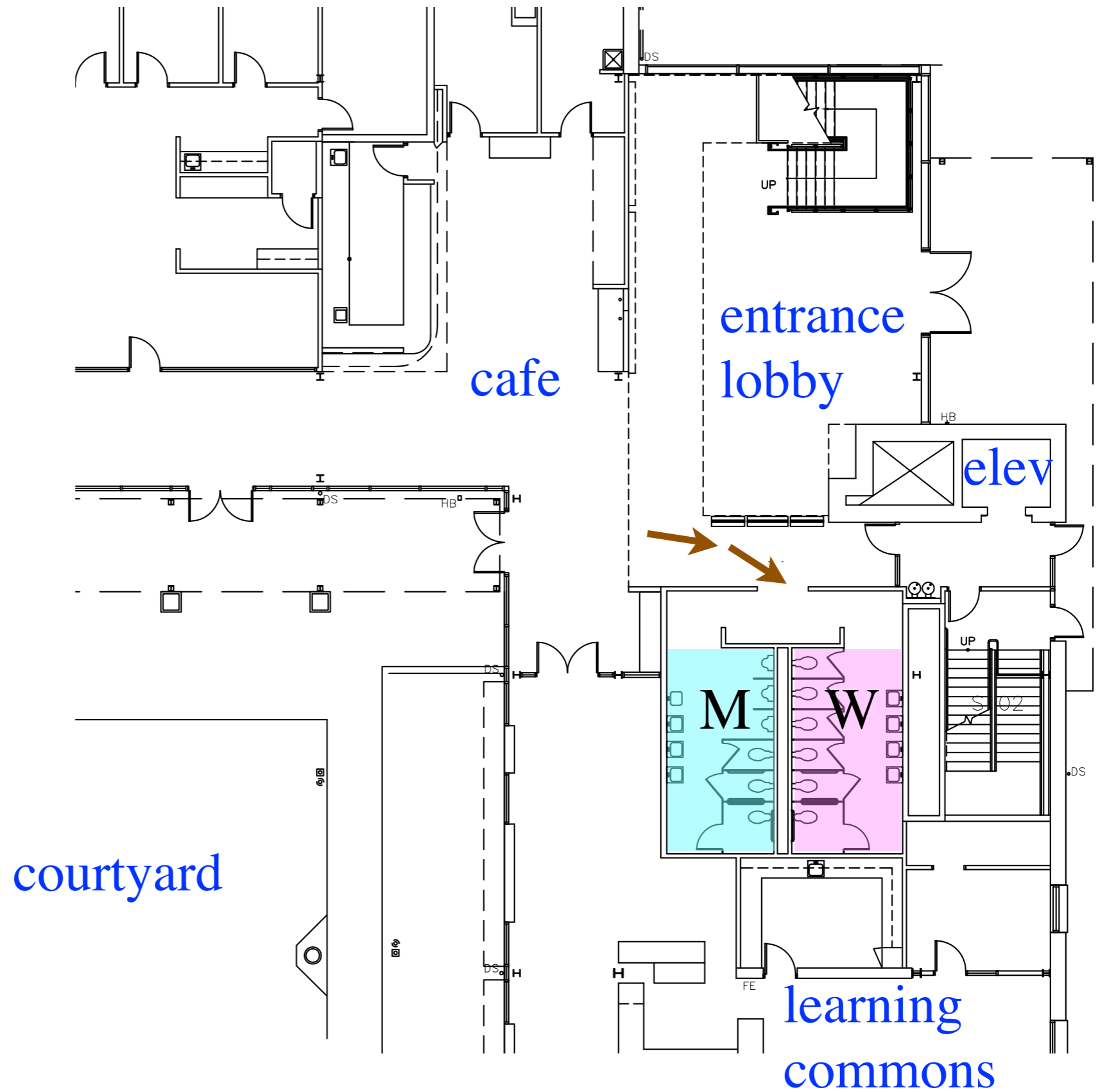
Universal Design Case: Design Integration at HEDCO restrooms



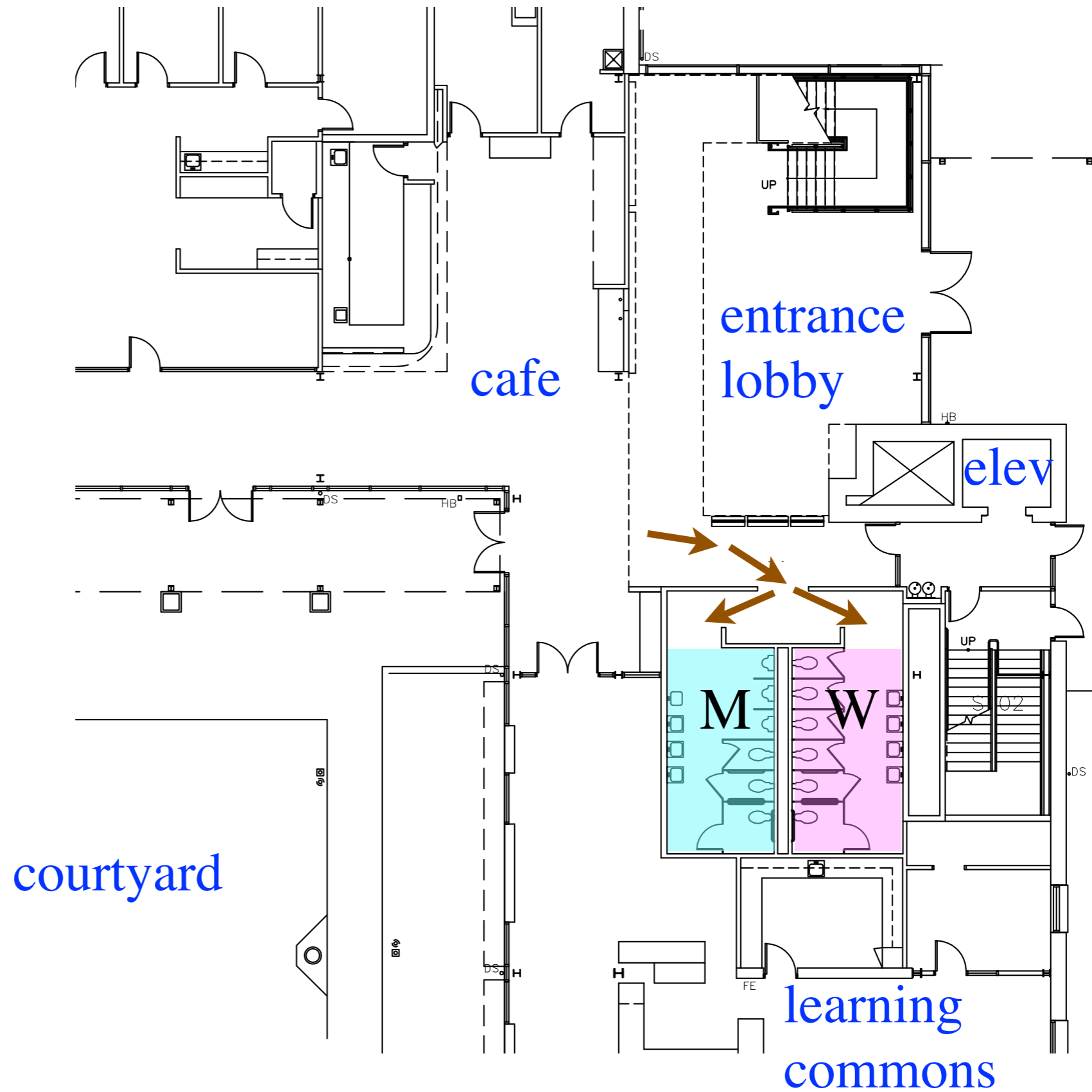
Universal Design Case: Design Integration at HEDCO restrooms



Universal Design Case: Design Integration at HEDCO restrooms



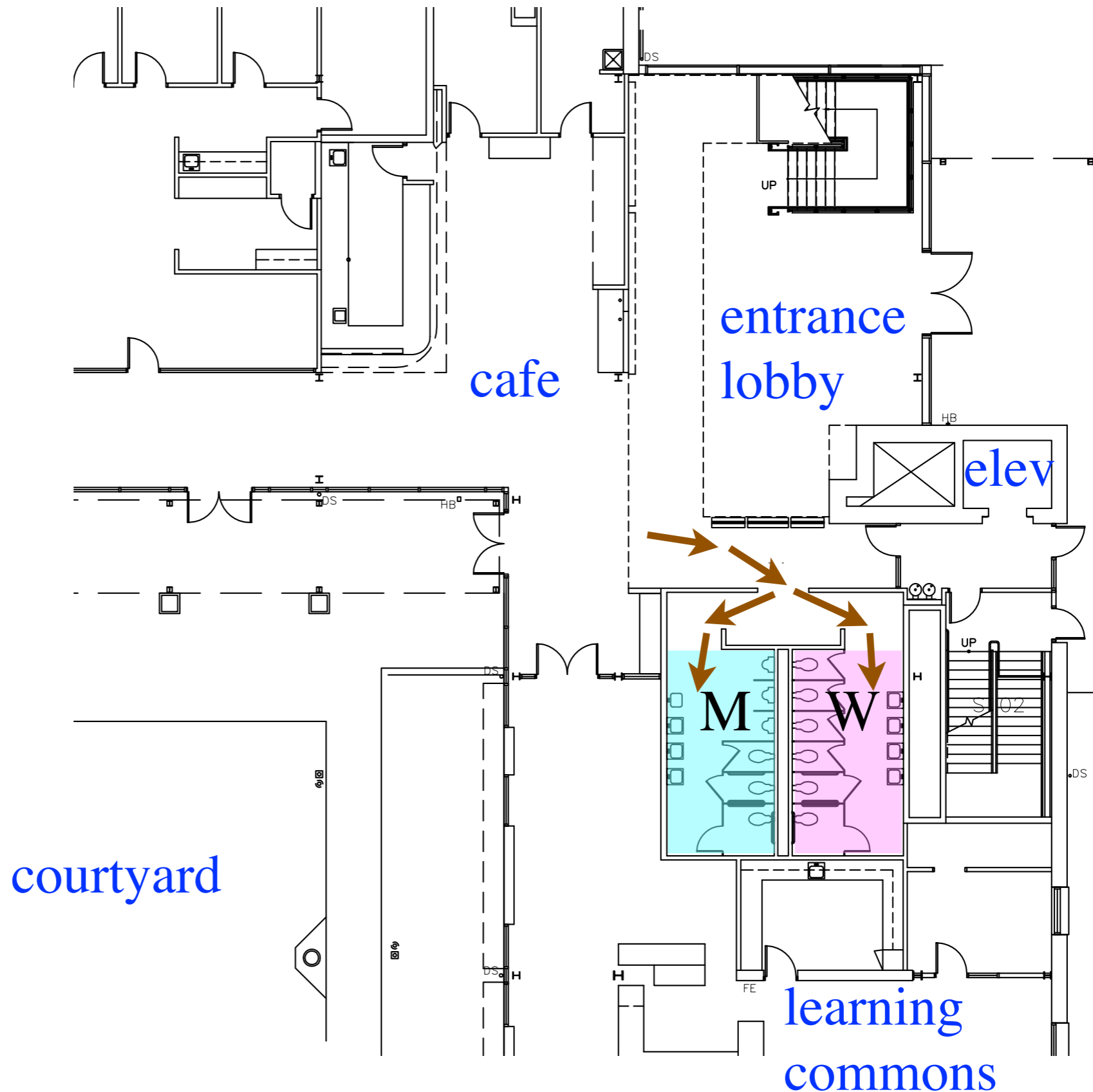
Universal Design Case: Design Integration at HEDCO restrooms



Universal Design Case: Design Integration at HEDCO restrooms

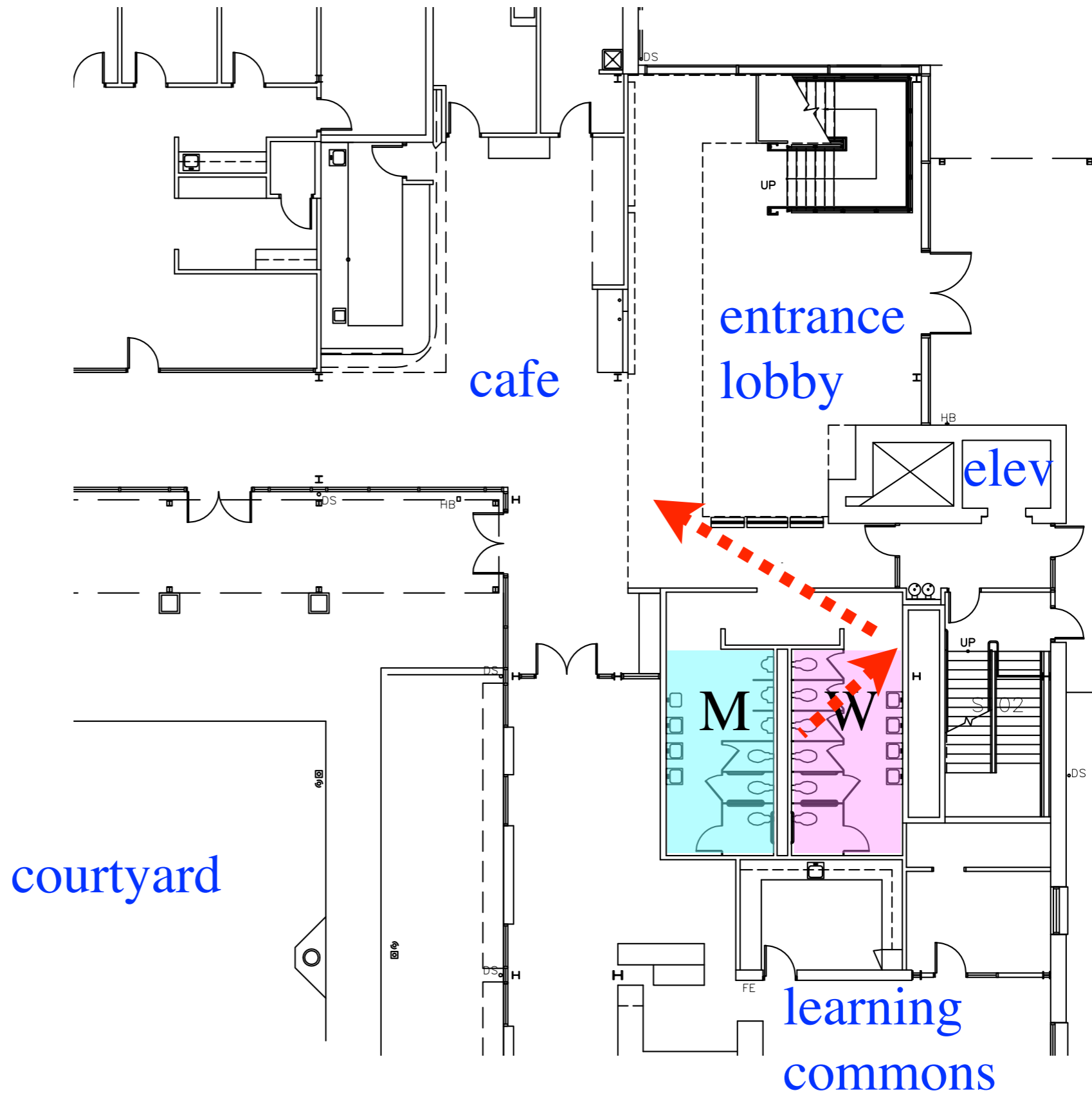
Mobility: No-door (airport-style) toilet rooms have no entry barriers

Vision: Auditory cue of water sounds guides users to the restrooms



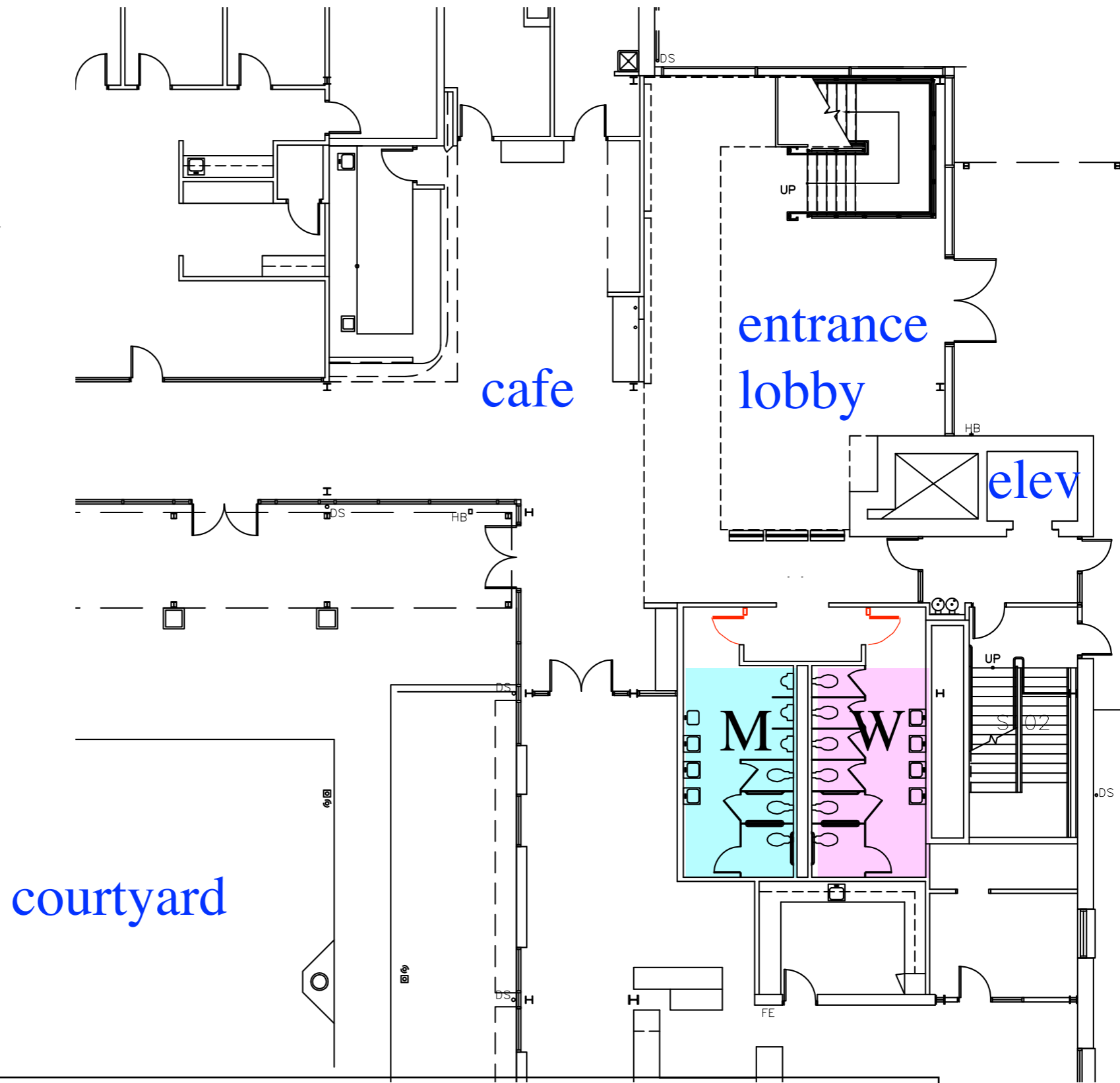
Universal Design Case: Design Integration at HEDCO restrooms

Problem:
Poor acoustical design puts too much toilet noise into the entrance lobby



Universal Design Case: Design Integration at HEDCO restrooms

Result: Doors are retro-fitted, making access more difficult



Universal? Welcoming? Effective? Durable?

Universal Design Case: Mobility, Johnson Hall entrance



MOBILITY PATTERNS

Integrated Path

Low Slope/Short Ramps

Shortest Path

Easy Climbs

Universal Design Case: Mobility, Johnson Hall entrance



MOBILITY PATTERNS

Integrated Path

Low Slope/Short Ramps

Shortest Path

Easy Climbs

Universal Design Case: Mobility, Johnson Hall entrance



MOBILITY PATTERNS

Integrated Path

Low Slope/Short Ramps

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Universal Design Case: Mobility, Johnson Hall entrance



MOBILITY PATTERNS

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MOBILITY PATTERNS

Integrated Path

Low Slope/Short Ramps

Shortest Path

Easy Climbs

Universal Design Case: Mobility, Johnson Hall entrance



MOBILITY PATTERNS

Integrated Path

Low Slope/Short Ramps

Shortest Path

Easy Climbs

Universal Design Case: Mobility, Johnson Hall entrance



Solution: Create a new entrance to lower level.
18” drop, straight 5% slope, closest entrance to parking

Universal? Welcoming? Effective? Durable?

MOBILITY PATTERNS

Integrated Path

Low Slope/Short Ramps

Shortest Path

Easy Climbs

Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



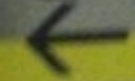
Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



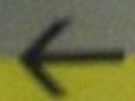
External Relations
& Communications



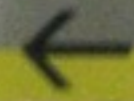
Facilities Support
Services



Development



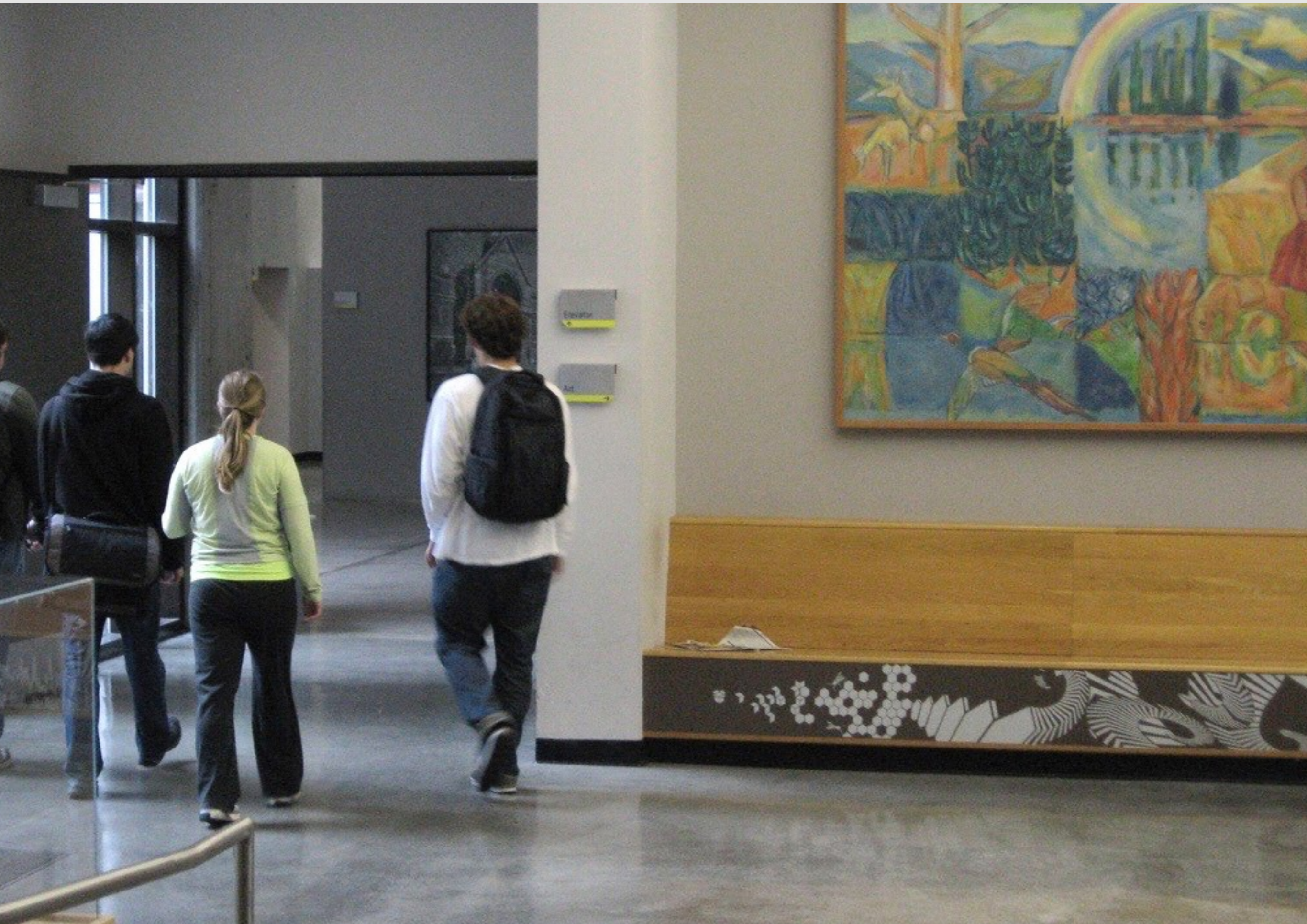
Restrooms



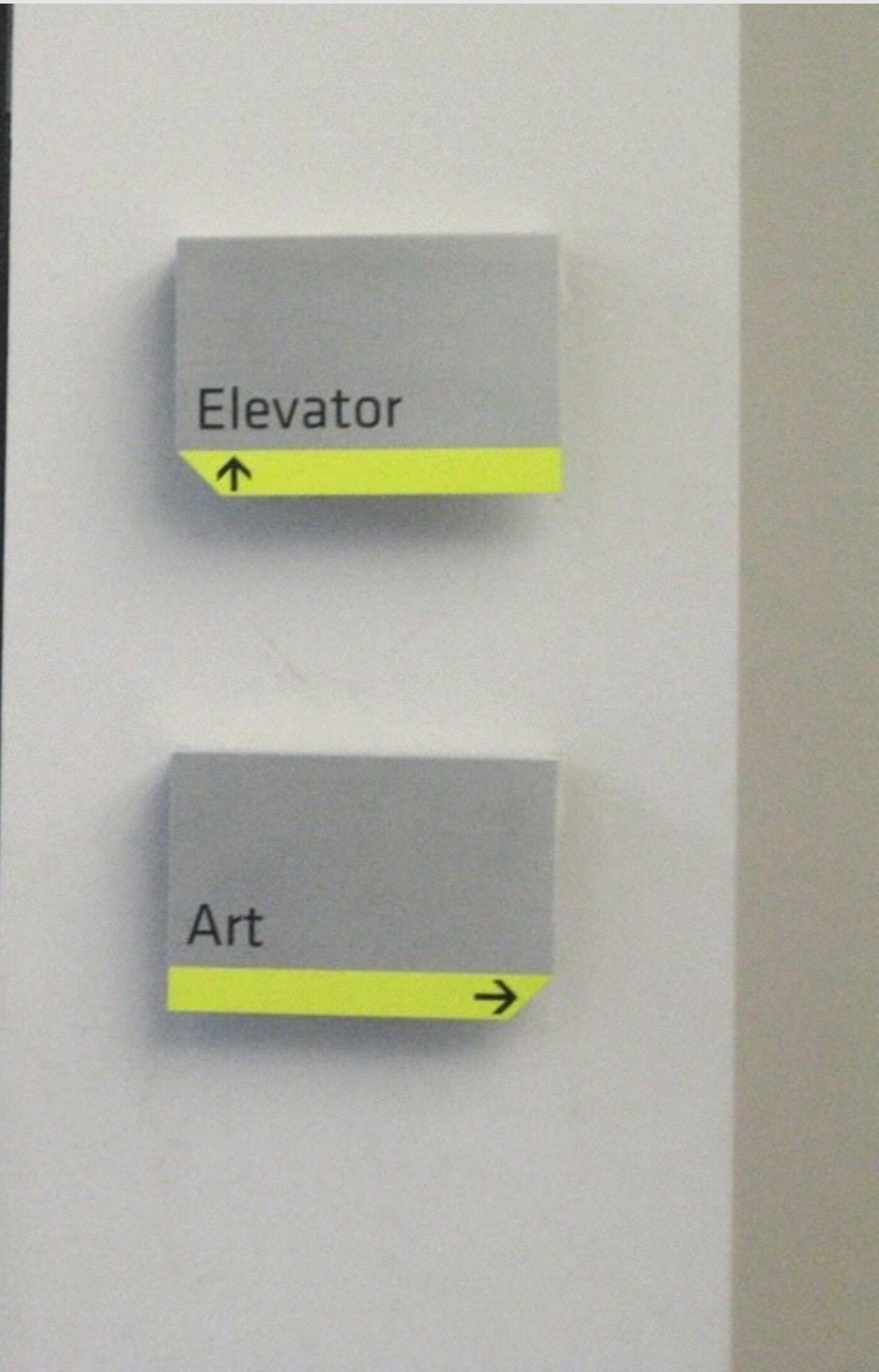
Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



Universal Design Case: Mobility and way finding



Social Isolation:

If this is your only route to studio,
how would you feel?

MOBILITY PATTERNS

Integrated Path

Low Slope/Short Ramps

Shortest Path

Easy Climbs

Universal?

Is it universal?
Is it designed for a wide range
of abilities and needs?

Welcoming?

Is it welcoming?
Does it feel natural and comfortable for
all users?
Does it discriminate unnecessarily on the
basis of ability?
Does it give the impression of disability-
based discrimination?

Effective?

Is it effective?
Does it actually work for the specific
needs?
Has it been tested or reviewed by
representatives of a wide range of
users?
Is it supported by research, design
standards, or other sources?

Durable?

Will the design solution be durable
over time?
Can it accommodate change
through flexibility, adaptability, or
adjustability?

Universal Design Case: Mobility and way finding



Universal Design Case: Mobility



- Universal?
- Welcoming?
- Effective?
- Durable?

MOBILITY PATTERNS

Integrated Path

Low Slope/Short Ramps

Shortest Path

Easy Climbs



Universal Design: Mobility and emergency egress

- Universal?
- Welcoming?
- Effective?
- Durable?

MOBILITY PATTERNS

Integrated Path

Low Slope/Short Ramps

Shortest Path

Easy Climbs



Universal Design: Mobility and emergency egress



- Universal?
- Welcoming?
- Effective?
- Durable?

MOBILITY PATTERNS

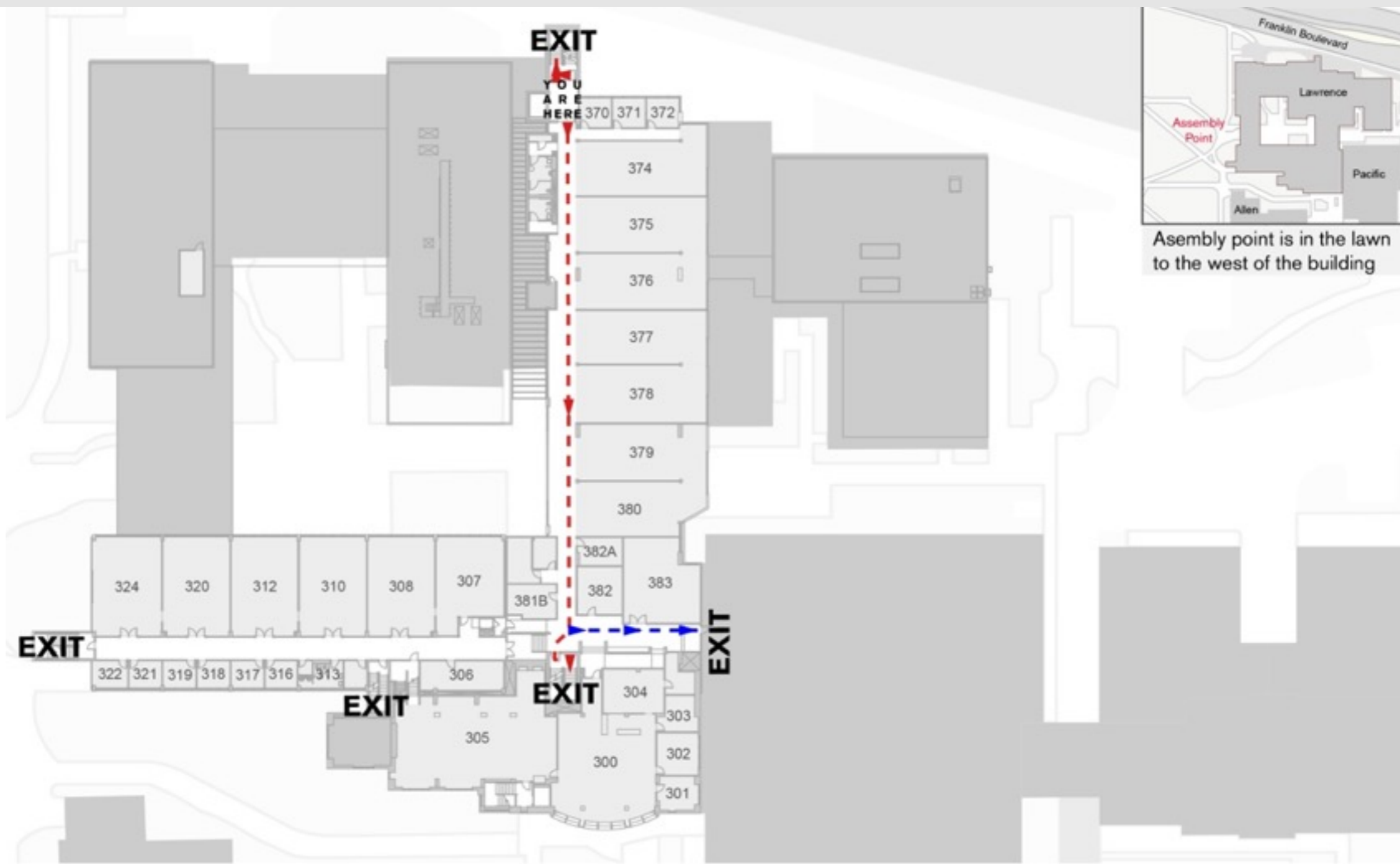
Integrated Path

Low Slope/Short Ramps

Shortest Path

Easy Climbs

Universal Design: Mobility and emergency egress



Assembly point is in the lawn to the west of the building

- Evacuation Route
- ADA Accessible Route
- Evacuation & ADA Route
- PS Pull Station
- AP Alarm Panel
- Fire Extinguisher

Universal Design: Mobility and emergency egress

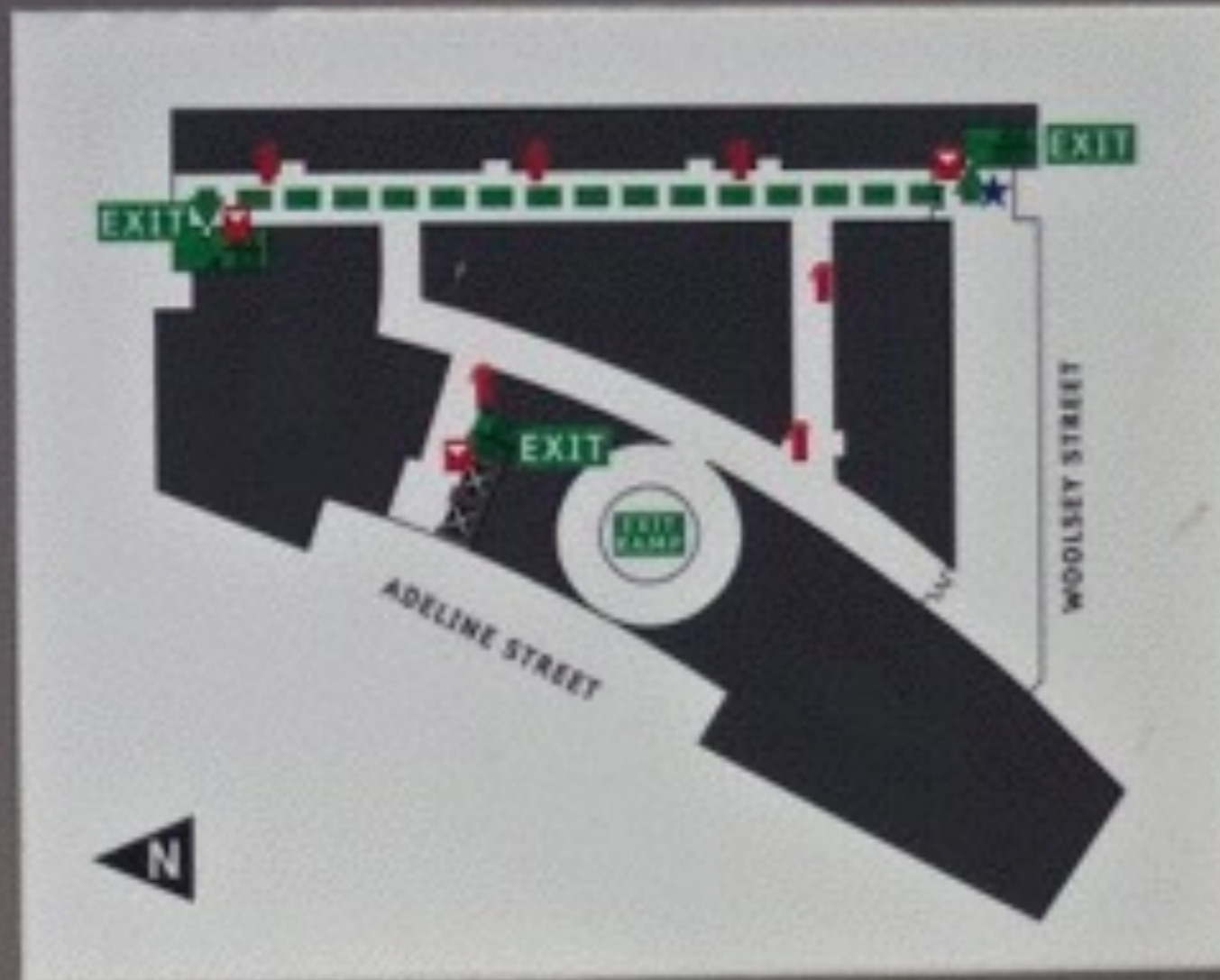
EVACUATION MAP 3075 ADELINE ST EXIT STAIR DOWN

FLOOR 2

Call **9-911**

Fire / Police / Medical.

In case of an emergency, activate fire alarm. Alarm will sound as a three-pulse electric horn. Strobe lights will flash. Public address system will be used for announcements. Listen for instructions. Persons with disabilities shall proceed to the ramp and exit the building or to the nearest stairwell and await assistance.



★ YOU ARE HERE ■ Fire Extinguisher ■ Fire Alarm ■ Elevator → Exit Path

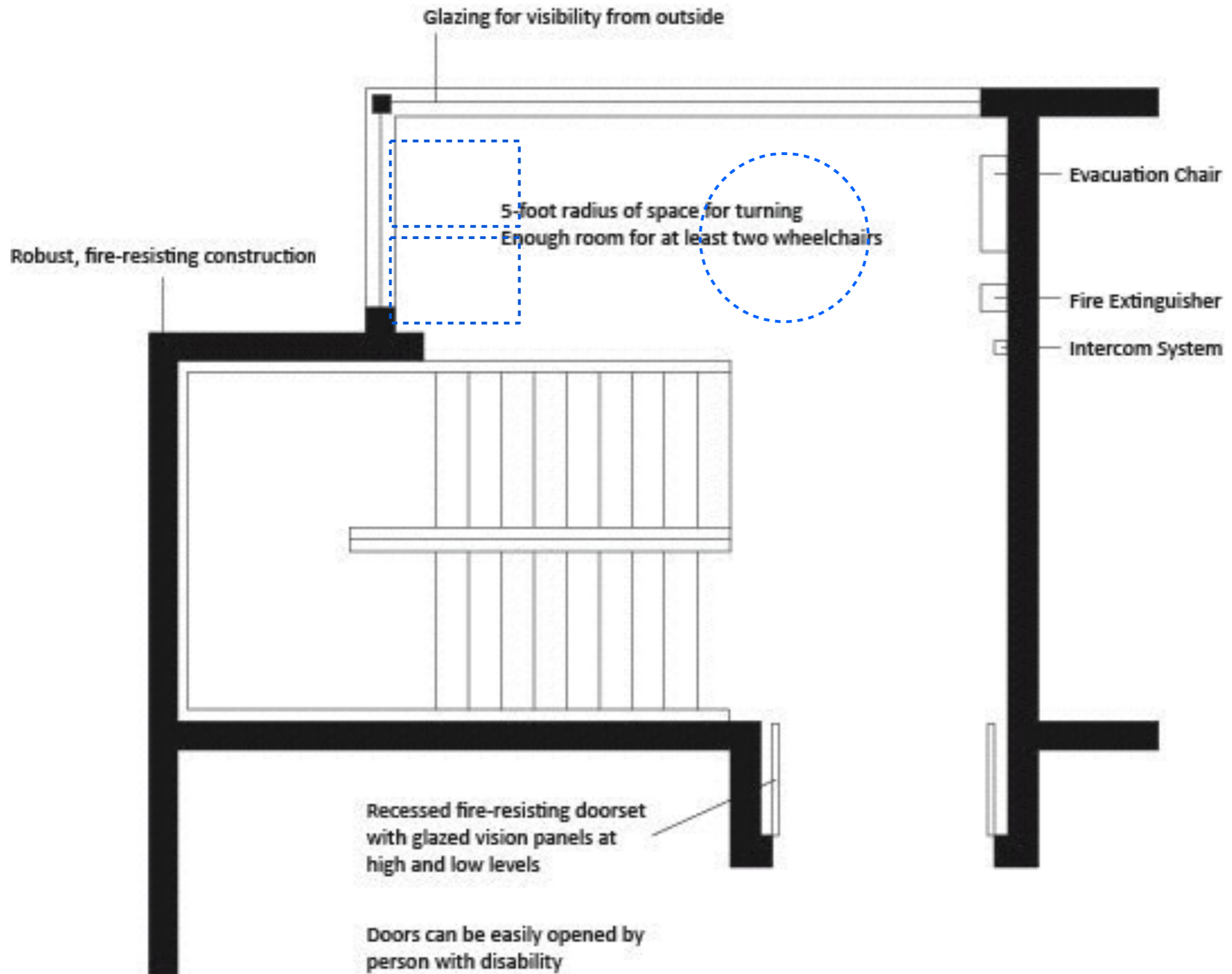
Universal Design: Mobility and emergency egress



Universal Design: Mobility and emergency egress



Universal Design: Mobility and emergency egress best practices



Universal Design: Mobility and emergency egress best practices

Tools:

Fire sprinklers

Pre-planning

Cell phones

Areas of rescue assistance

Evacuation elevators

... and others



Universal Design: Vision

PATTERNS:

No Protrusion Hazards

Avoid items that protrude more than 4" above 24" (ADA Standards = 27") so that blind and low vision users are safe

Safe Crossings

Design vehicular areas with clear separation from pedestrian areas, either

- curbs at 1:12 slope, or
- 3' band of tactile pavement, or
- bollards with 3' maximum gaps

Effective Shorelines

Provide consistent edges to guide cane users and others

- vertical edges such as walls and curbs, or
- textural contrasts such as pavement to planting, or concrete to gravel, or paving type, and
- provide visual contrast along shorelines as appropriate

90 Degree Corners, No Curves

Provide clear circulation to enhance imageability

Avoid curves and angles, use a rectilinear organization for circulation

Visual Contrast

Use light/dark contrast to emphasize stair hazards, shorelines, etc.

VISION PATTERNS

No Protrusion Hazards

Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

Universal Design: Vision - no protrusion hazards

PATTERNS:

No Protrusion Hazards

Avoid items that protrude more than 4" above 24" (ADA Standards = 27") and below 80" so that blind and low vision users are safe.



VISION PATTERNS

No Protrusion Hazards

Safe Crossings

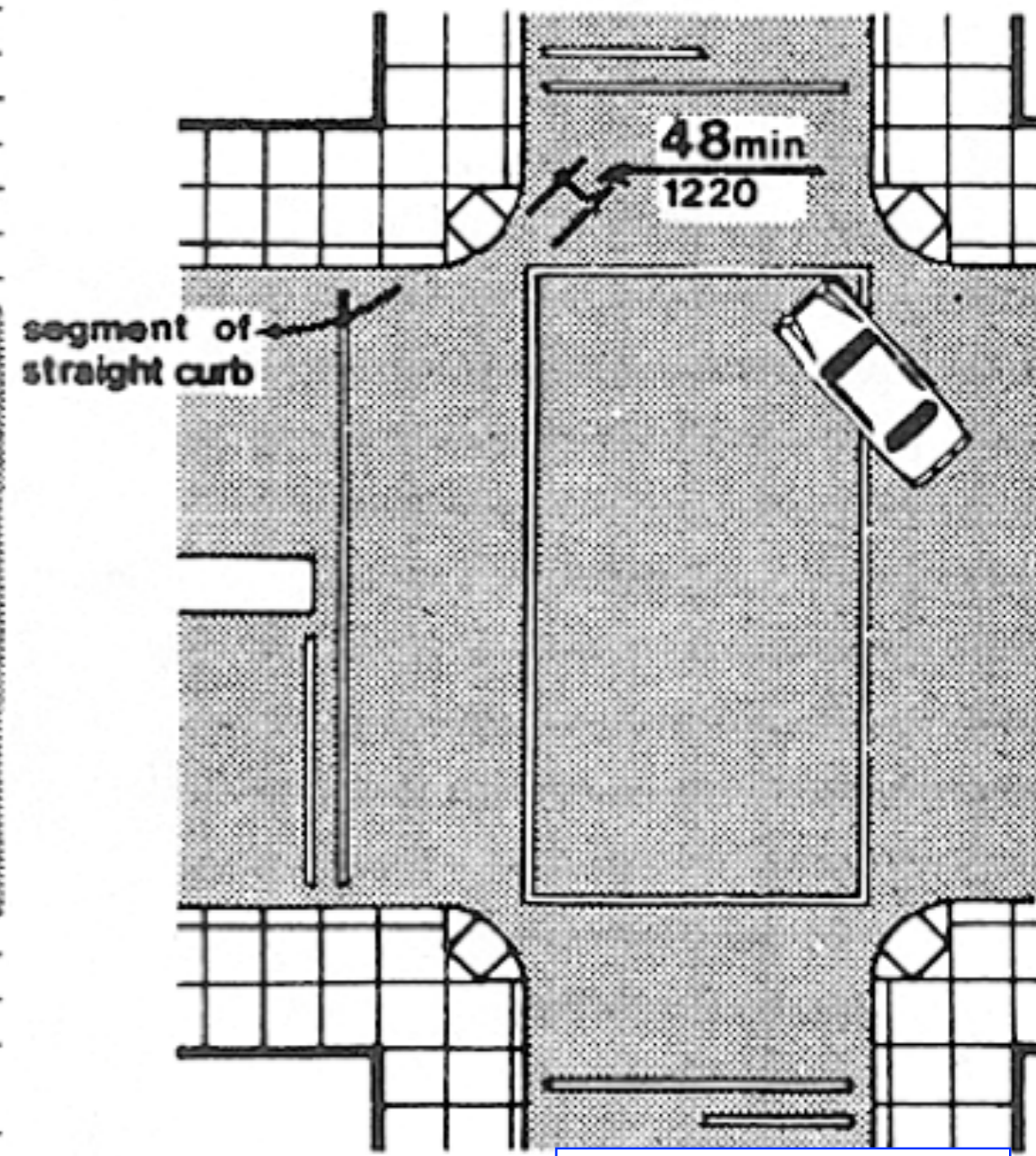
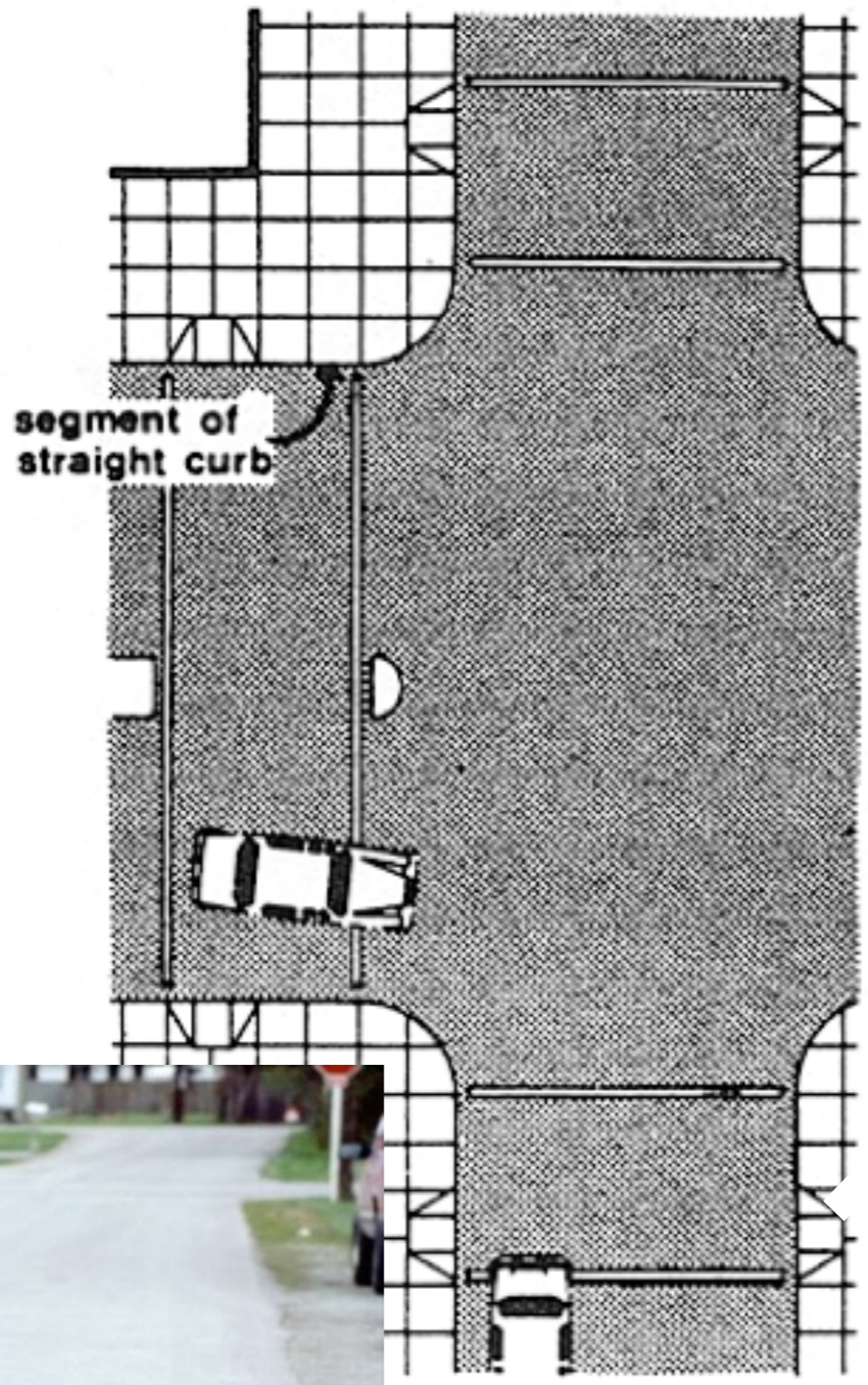
Effective Shorelines

90 Degree Corners

Visual Contrast

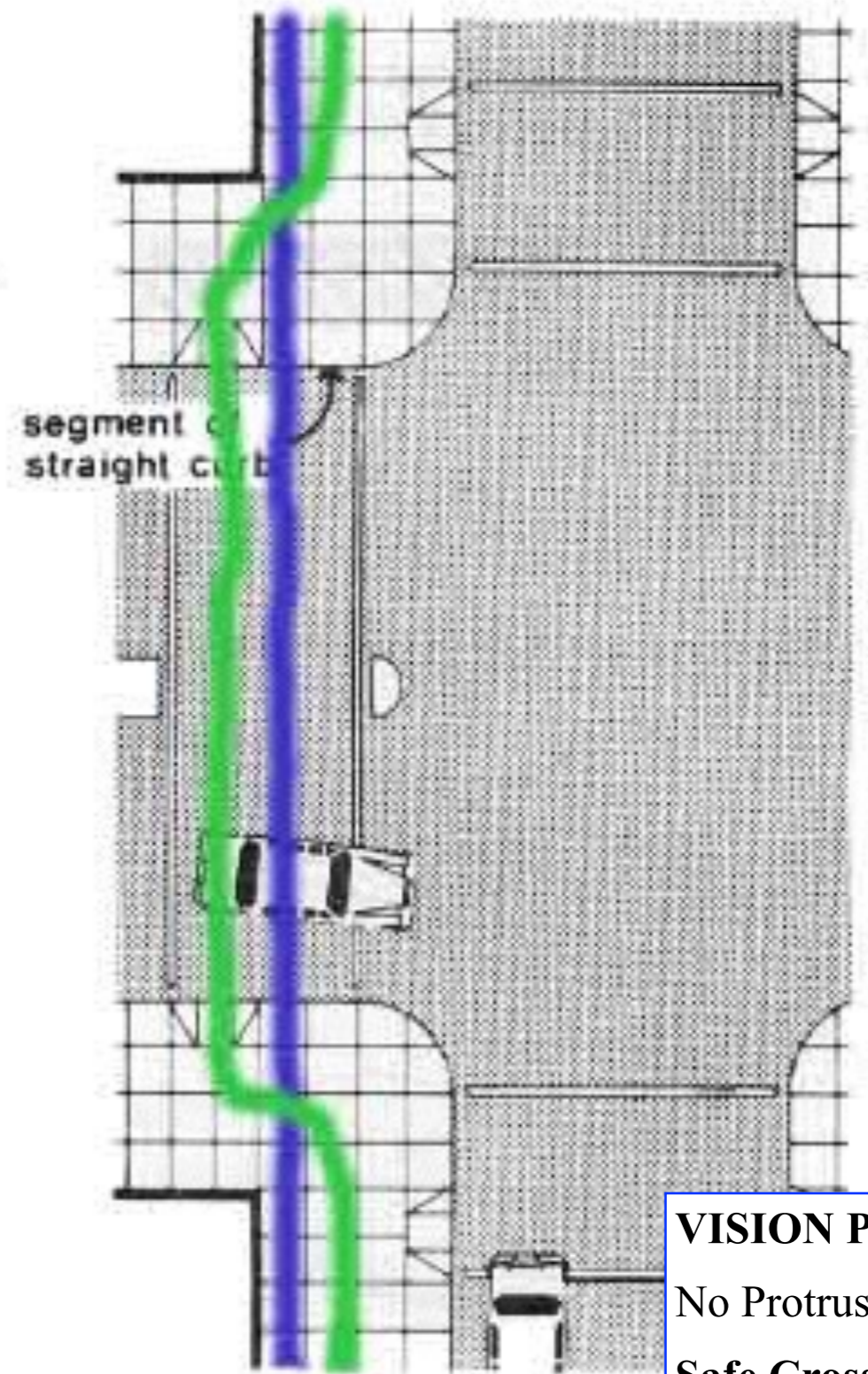
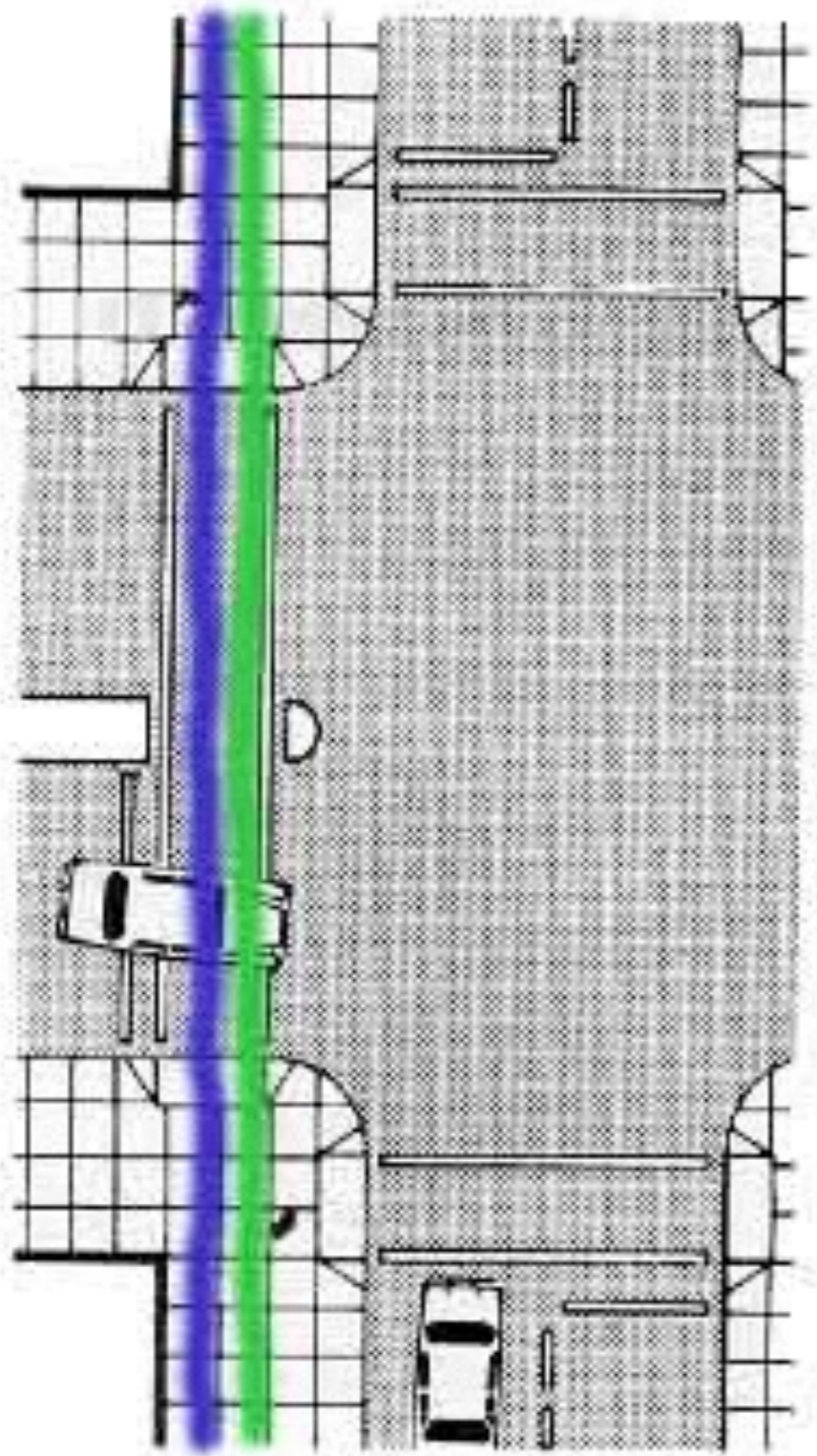
Universal Design: Safe Crossings

- Orthogonal (90 degree) elements for straight paths
- Sound cues



VISION PATTERNS
No Protrusion Hazards
Safe Crossings
Effective Shorelines
90 Degree Corners
Visual Contrast

Universal Design: Curb Ramps - Mobility vs. Vision?



VISION PATTERNS

No Protrusion Hazards

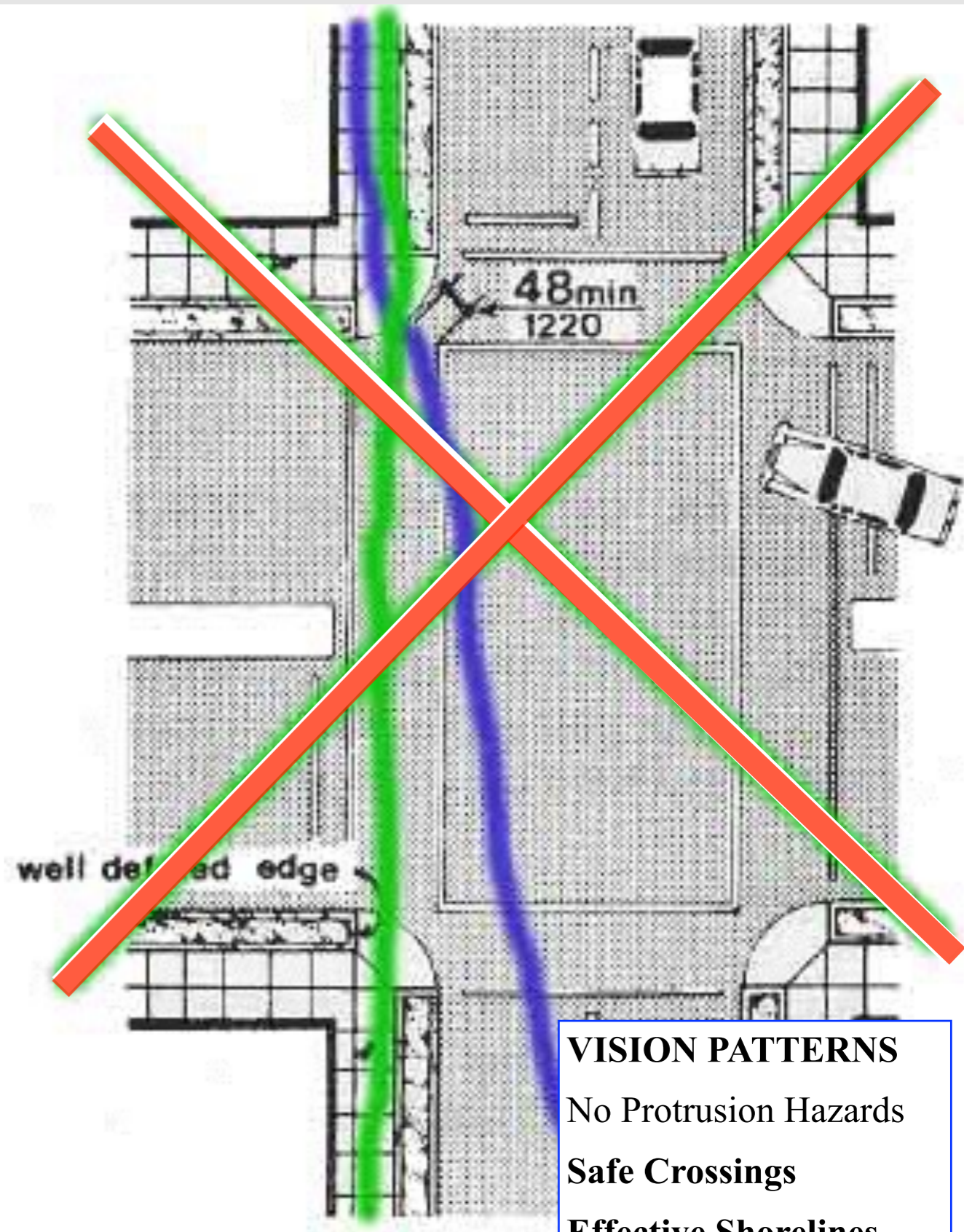
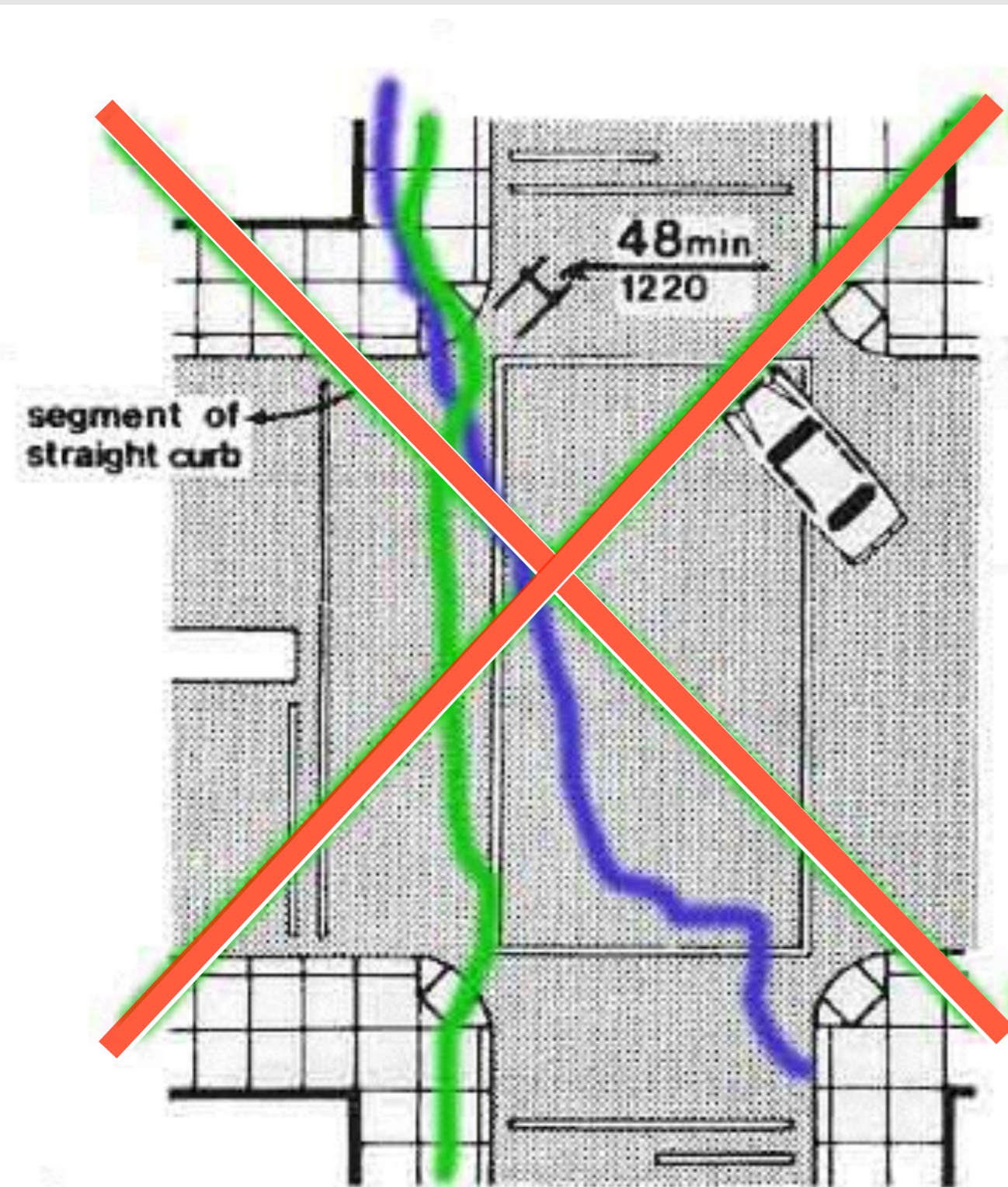
Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

Universal Design: Curb Ramps - Mobility vs. Vision?



VISION PATTERNS
No Protrusion Hazards
Safe Crossings
Effective Shorelines
90 Degree Corners
Visual Contrast

Also, enhancement of auditory cues with pavement textures

Universal Design: Curb Ramps - Mobility vs. Vision?



VISION PATTERNS

No Protrusion Hazards

Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

Universal Design: Curb Ramps - Mobility vs. Vision?



VISION PATTERNS

No Protrusion Hazards

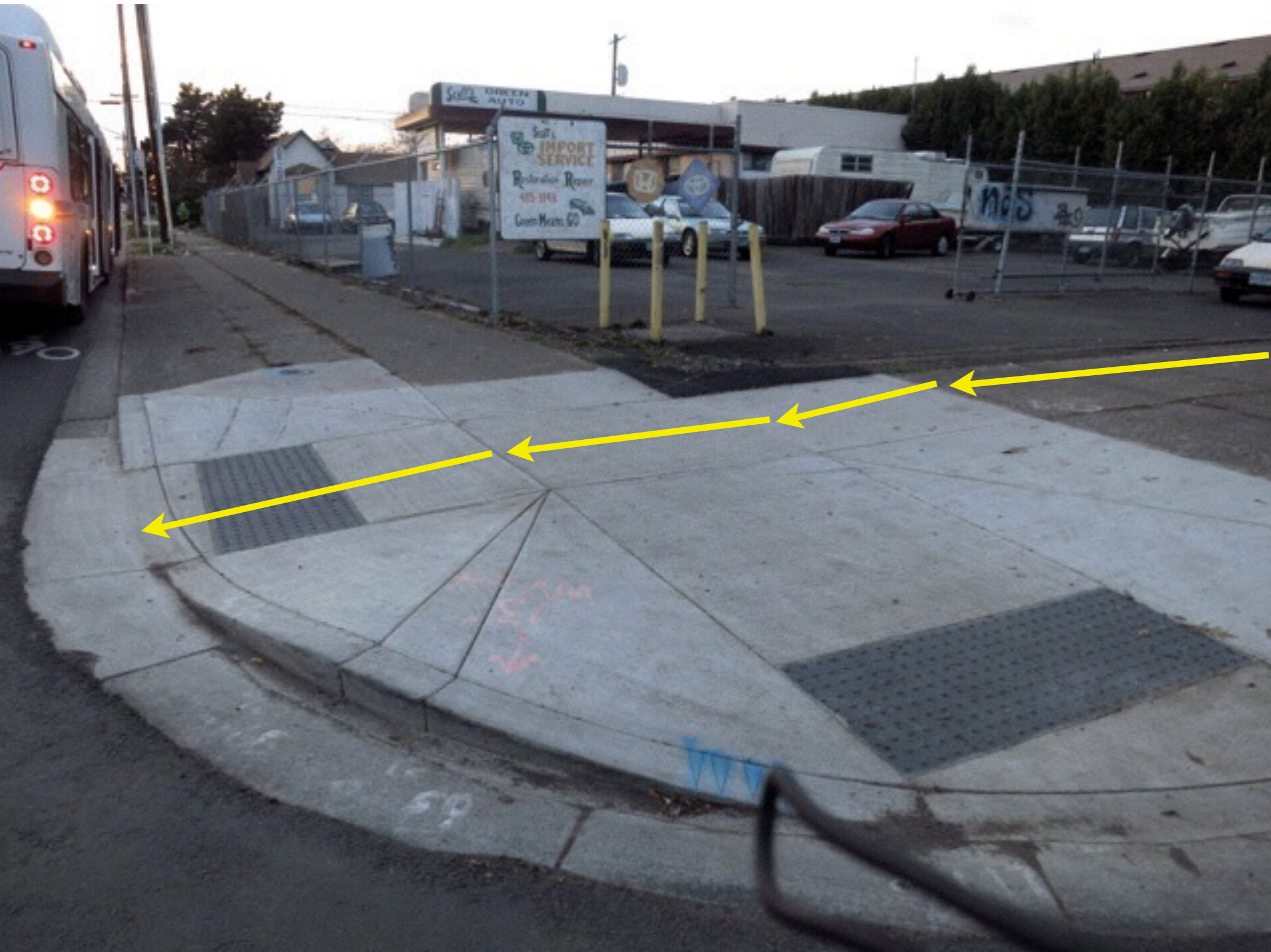
Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

Universal Design: Curb Ramps - Mobility vs. Vision?



VISION PATTERNS

No Protrusion Hazards

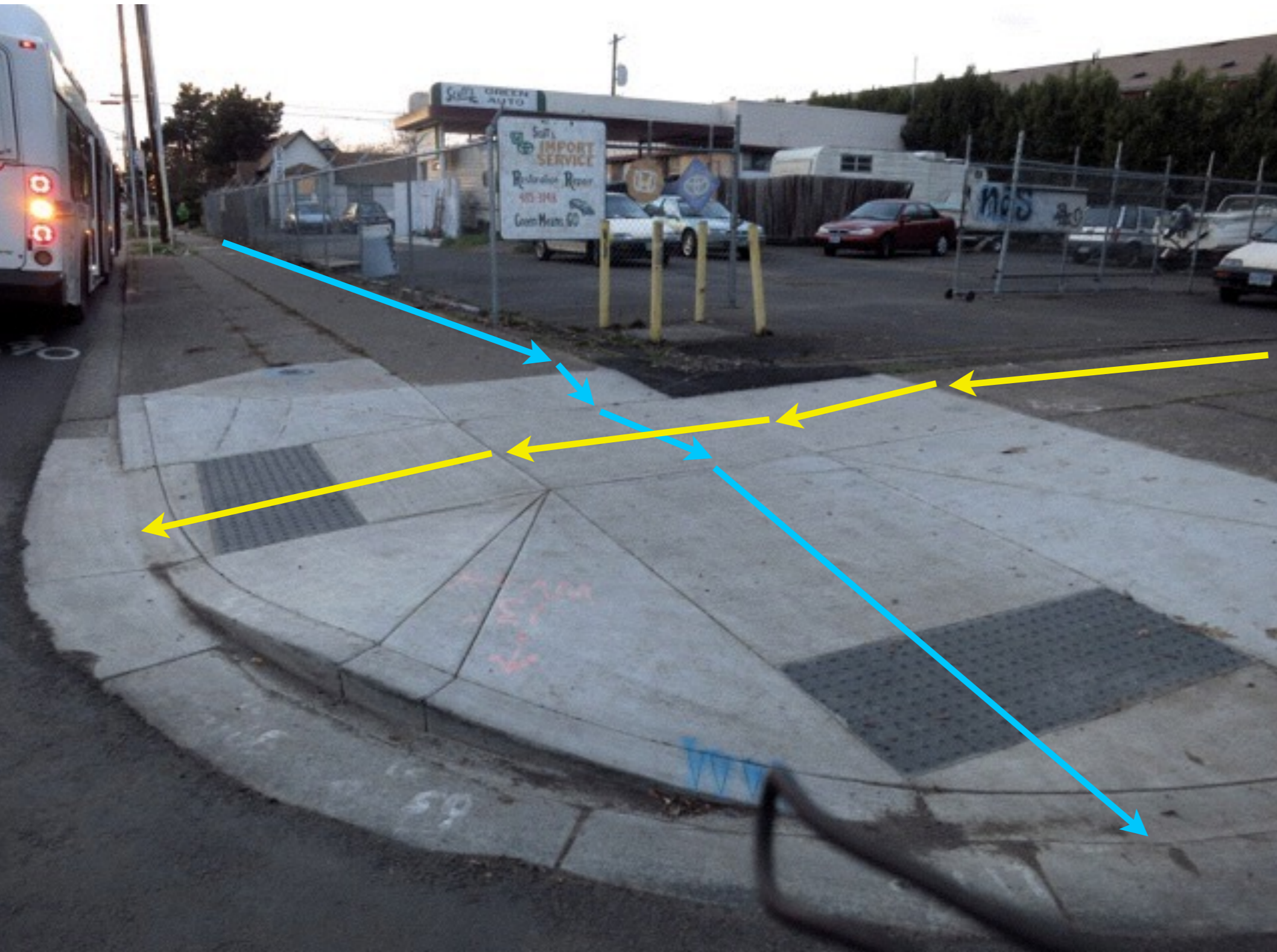
Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

Universal Design: Curb Ramps - Mobility vs. Vision?



- VISION PATTERNS**
- No Protrusion Hazards
- Safe Crossings**
- Effective Shorelines**
- 90 Degree Corners**
- Visual Contrast**

Universal Design: Vision on Broadway



VISION PATTERNS
No Protrusion Hazards
Safe Crossings
Effective Shorelines
90 Degree Corners
Visual Contrast

Universal Design: Vision on Broadway



Shorelines

- VISION PATTERNS**
- No Protrusion Hazards**
- Safe Crossings**
- Effective Shorelines**
- 90 Degree Corners**
- Visual Contrast**

Universal Design: Vision on Broadway



Shorelines

VISION PATTERNS
No Protrusion Hazards
Safe Crossings
Effective Shorelines
90 Degree Corners
Visual Contrast

Universal Design: Vision on Broadway



VISION PATTERNS
No Protrusion Hazards
Safe Crossings
Effective Shorelines
90 Degree Corners
Visual Contrast

Universal Design: Vision on Broadway

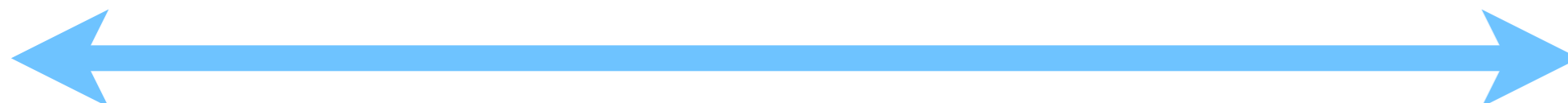


Test for reflectance high contrast by
photographing in black and white

full vision

limited vision

blindness



VISION PATTERNS

No Protrusion Hazards

Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

Universal Design: Vision on Broadway

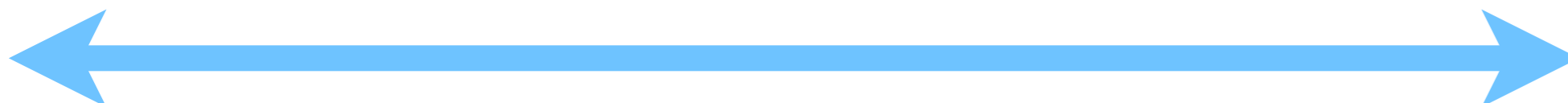


Who is this for?
Does it matter?

full vision

limited vision

blindness



VISION PATTERNS

No Protrusion Hazards

Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

Universal Design: Vision - Lane Transit Station



VISION PATTERNS

No Protrusion Hazards

Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

Universal Design: Vision - Lane Transit Station



VISION PATTERNS

No Protrusion Hazards

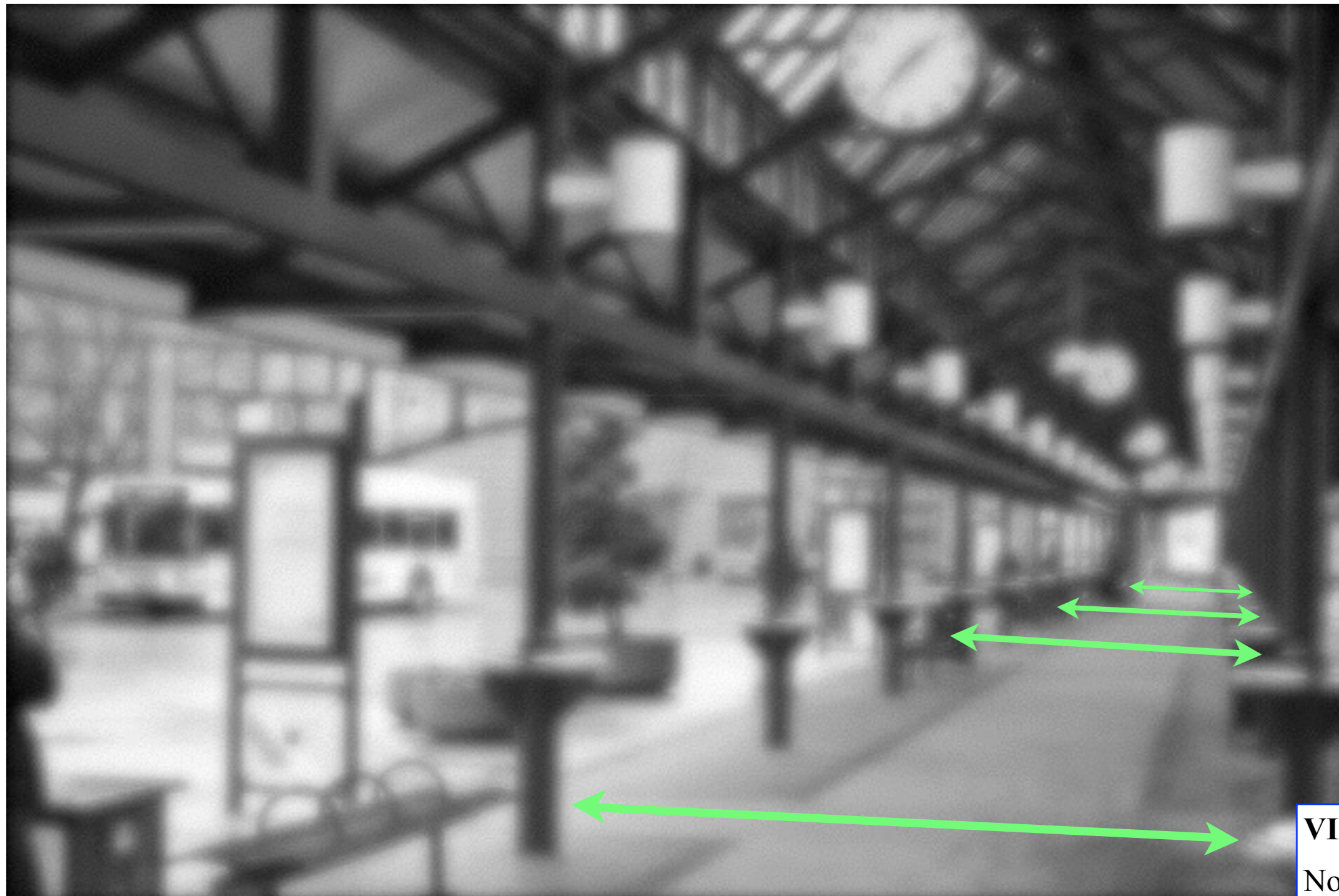
Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

Universal Design: Vision - Lane Transit Station



VISION PATTERNS
No Protrusion Hazards
Safe Crossings
Effective Shorelines
90 Degree Corners
Visual Contrast

Universal Design: Vision - contrast guides stairs



SFMOMA
Snøhetta



VISION PATTERNS
No Protrusion Hazards
Safe Crossings
Effective Shorelines
90 Degree Corners
Visual Contrast

Universal Design: Vision - contrast guides stairs



PATTERNS: Visual Contrast

Use lighting and form, with contrast accents at top and bottom stair treads, to provide guidance and safety for as many people as possible.

VISION PATTERNS

No Protrusion Hazards

Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

PATTERNS: Visual Contrast

Use lighting and form, with contrast accents at top and bottom stair treads, to provide guidance and safety for as many people as possible.

VISION PATTERNS
No Protrusion Hazards
Safe Crossings
Effective Shorelines
90 Degree Corners
Visual Contrast

Universal Design: Maps



Universal design of maps and graphics

Universal Design: Vision at the Health Center



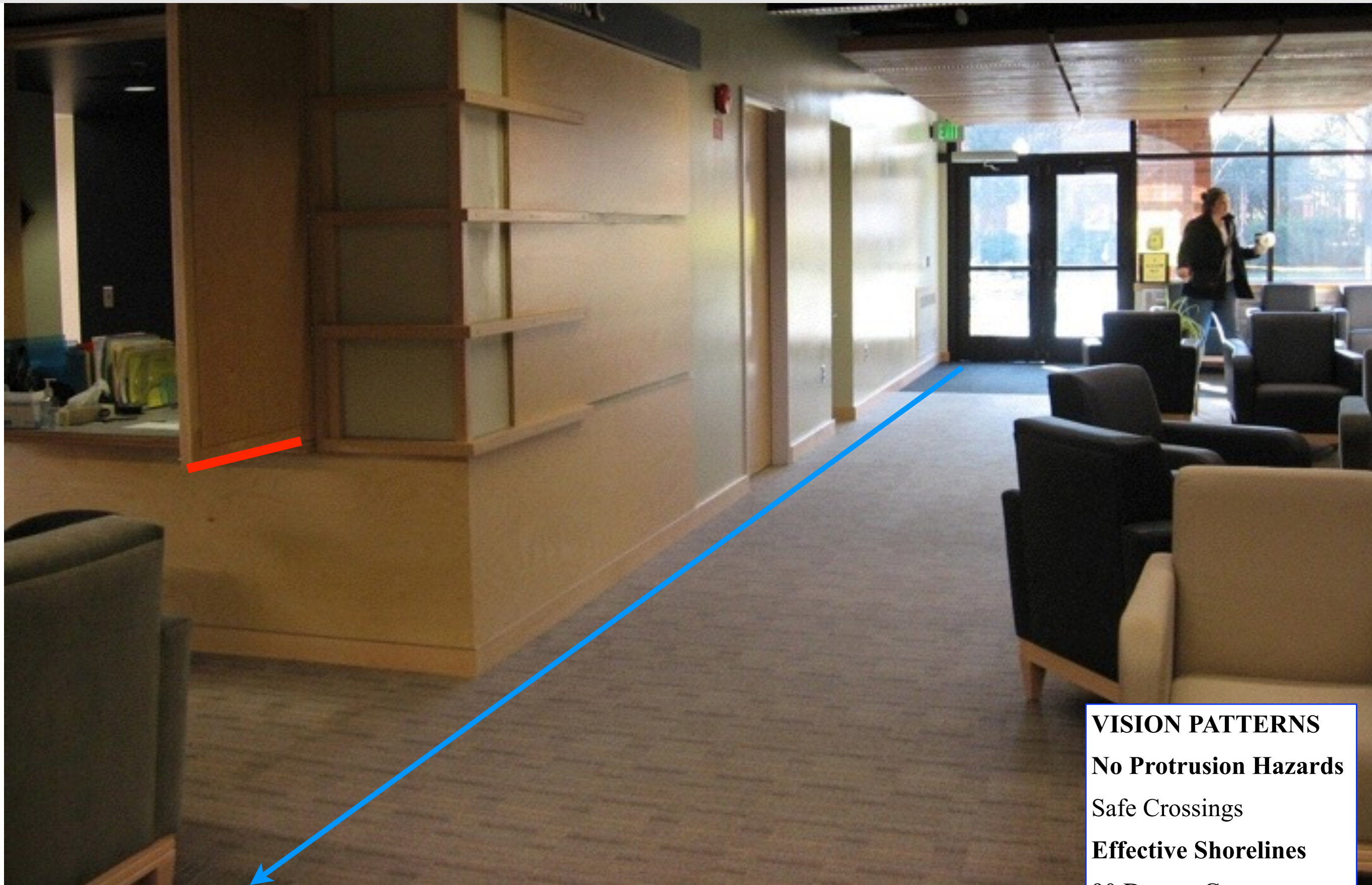
Nice building!

Universal Design: Vision at the Health Center



VISION PATTERNS
No Protrusion Hazards
Safe Crossings
Effective Shorelines
90 Degree Corners
Visual Contrast

Universal Design: Vision at the Health Center



VISION PATTERNS
No Protrusion Hazards
Safe Crossings
Effective Shorelines
90 Degree Corners
Visual Contrast

Universal Design: Vision at the Health Center



VISION PATTERNS

No Protrusion Hazards

Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

Universal Design: Vision at the Health Center



VISION PATTERNS

No Protrusion Hazards

Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

Universal Design: Vision at building entrances



VISION PATTERNS

No Protrusion Hazards

Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

Universal Design: Vision at building entrances



VISION PATTERNS

No Protrusion Hazards

Safe Crossings

Effective Shorelines

90 Degree Corners

Visual Contrast

HEDCO Building

College of Education
University of Oregon



AUTISM PATTERNS
Controls & Adjustments
Soft Light & Colors
Subdued Prints
User Testing

HEDCO Building

College of Education
University of Oregon



AUTISM PATTERNS

Controls & Adjustments

Soft Light & Colors

Subdued Prints

User Testing

- **Is it universal?**

- Is it designed for a wide range of abilities and needs?

- **Is it effective?**

- Does it actually work for the specific needs?
- Has it been tested or at least reviewed by representatives of a wide range of users?
- Is it supported by research, design standards, or other sources?

- **Is it welcoming?**

- Does it feel natural and comfortable for all users?
- Does it discriminate unnecessarily on the basis of ability?
- Does it give the impression of disability-based discrimination?

- **Will the design solution be durable over time?**

- Can it accommodate change through flexibility, adaptability, or adjustability?

and...

DON'T BE STUPID!



N.B: This is in no way a comment on any person, present or past, who has ever worked as or for the Dean of the School of Architecture and Allied Arts at the University of Oregon. This image has been placed here to demonstrate to architecture students the importance providing vertical transport, in the form of elevators, at or near the main entrance of a building. In the example in the AAA Dean's Office shown above, what appears to be a round white column is in fact the hydraulic piston of an elevator added in the 1990's. It was designed at the right horizontal location but it only served upper floors, which is (to be blunt) stupid. If you still don't get it, [send me a note](#) and we'll talk about it sometime.

Now we're done ... The Life of a Student

What did you learn
from our discussion today?

Please make note of three things worth
remembering.

<http://pages.uoregon.edu/ftepfer/access/>

Fred Tepfer

(with contributions from
Olivia Asuncion,
Molly Rogers, and
many others)

