



fig 165

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Washington Post: Live on Line

Topic: Washington Transit
 With Richard A. White, General Manager, Metro
 Friday, March 21, 2003; 1 p.m. ET

As general manager and chief executive officer of the Washington Metropolitan Area Transit Authority, Richard A. White is responsible for the operation of Metrobus and Metrorail.

In the past few months, Metrorail has been under scrutiny after a six-car train derailed near Reagan National Airport. (Read the article.) Metro also came under fire for its performance during the February snowstorm. (Read the article.) Metro is also trying to find ways to meet the demands of its riders, including a possible Purple Line in Montgomery County and extending its hours of operation.

White has led WMATA since 1996. He came to Washington from San Francisco, where he was the general manager of the Bay Area Rapid Transit system. Before that, he worked for the New Jersey Transit Corporation and was a program analyst with what is now the Federal Transit Administration.

(Excerpt from on-line question and answer session with readers follows.)

Washington, D.C.: I love the Metro! There’s always room for improvement, however. When you leave stations, especially ones with multiple exits, it can be hard to know where to catch a given bus. In London, the Tube has maps inside each station letting you know which exit to take to catch a given bus. In places like L’Enfant Plaza, Metro Center, and many others, this would be a big help! thanks.

Richard A. White: We don’t disagree with your assessment. *The current situation goes back to the original design of our Metrorail system, which relied on a “less is more” approach in terms of signage and other amenities.* However, we now recognize that we need to do a better job communicating with our customers about their various transit options in a given station, including bus service. We are doing a test project of new, improved signage at our Gallery Place-Chinatown station and hope to use the results and lessons learned for application at other stations in our system. Thanks for the suggestion!



fig 166 – a woman using Metro’s signage

Text printed in black are the original observations. Highlighted text are the researcher's reactions to, and ideas about, each observed situation. This presentation approach, a "live" document in which a responsive dialogue between field research and the design researchers' subsequent thoughts, brings to life the design thought processes and, it is hoped, activates the reader's own.

- Attempted to ask a man reading a fare chart if he was having any difficulties. He initially said "no" and seemed embarrassed by my question. A moment later he said that he was having a "very difficult time getting through the station traffic" flow.

Could the interior design of the space actively shape the pedestrian traffic flow, while allowing for information gathering time and pauses?

- People rummaging through their bags looking for their wallets or change, have to find a spot against the wall and hover there while they try to maneuver their belongings around.

Should there be a safe place, out of the way of station traffic, for people to look for their money or other personal things in their bags?

- One non-English sign hangs in the Ballston Metro station. It's in Spanish and it is advertising the services of the Metro Police, but it is blocked by so much repair equipment that accessing it would be difficult.

Multi-lingual information is a must. The combination of International visitors to the Metro area and a high proportion of residents who are recent immigrants speaking little or no English, means that language bases need to be covered.

- A woman has been standing, leaning on a railing near the exit gates for a long time. It appears that she is waiting for someone. I know that Metro wants to discourage loitering in the stations, but it brings up a question: "If you are waiting for someone, where do you sit in the Metro station?"

How to provide functional waiting space, especially for people with special needs, without encouraging loitering? This is important if Metrorail is to become more than just a commuter rail system and serve the needs of elderly and other populations with needs.

- I saw a woman who had great difficulty getting her money out of her purse while buying a farecard, but she did not allow me to photograph her. This was probably because she was posed in a really awkward position. She was holding a coat, a tote bag, a newspaper under her arm, and a shopping bag that she had to set down on the ground.

With her attention focused on her purse she is unable to think about the bags she has set down, her personal safety, or be concerned about others nearby who might be viewing the contents of her purse. People need some privacy and space to gracefully handle their "baggage".



fig 167 – riders stopping to chat lean on a wall

Appendix B

- I've seen a few people have problems getting strollers and suitcases through the entry gates. This seems to be because they are using the regular access gates, not the wider handicap accessible gates.

Does luggage "handicap" the system's users? If the handicap accessible gates are used by other riders with special needs, will those for whom they were originally intended be further "handicapped"? How can the entry gates be designed to better serve all users? The gate-ness of the entry system is a problem. Look at what the gates are really intended to do: process farecards, count riders. Is there a different way to do these things?

- A small female child with her mother is nearly knocked over during rush hour by the stream of commuters entering the station and rushing to the train platforms. Her mother could not watch her because she was busy facing the machine trying to purchase a farecard.

Requiring riders to turn their backs to the station without providing a place within view for them to safely keep their children and possessions during the transaction, creates an unsafe situation.

- A lot of people have to turn sideways when going through the entry gates because they are carrying lots of bags, briefcases, or suitcases which don't fit, and they must set down these things in order to swipe their smartcard or insert and retrieve their farecard. Passage through the entry gates is also difficult for people who are physically larger than average.

Could the point of pass purchase incorporate these functions, and not hinder access? Could a universal graphic tool, maybe in mural form, educate riders about traveling safely with baggage, and other Metrorail rider etiquette? (fig. X)

- The interior environment in this station (Ballston) is very dim and poorly lit. I am having a difficult time seeing. Light conditions are especially bad by the station manager's booth where unless the light is on inside, the farecharts on the

outside of the booth are impossible to read. These farecharts are also difficult to read due to a strong reflective glare on the plexiglass that covers them. Nothing appears to have been treated for glare reduction.

Improving lighting at key points is a must, but it is important not to let dark corners become a problem too. Interior light levels overall need increasing. The visual information system as a whole needs an upgrade, perhaps a transition from signage to computer.

- Again and again people bump into one another as they move from machine to farechart and back again. The farecharts at the station manager's booth, plus the one backlit farechart by the pay telephones, both require that one moves against traffic to read them.

How about information points within the station that riders can visit before actually approaching the point of pass purchase? Information centers or kiosks which provide via computer interface farecharts, bus schedules, street maps, etc. so that riders can get all the information they need in one location?

The first two interviews in this series are printed in a question and answer format which should establish for the reader a sense of how questions were asked and interviews conducted. The remaining interviews are condensed; main points and informational highlights are presented in a summarized format rather than printing a verbatim translation in its entirety.

Subject 1: Male, approx. 25-30 yrs. of age has been looking at the fare chart for several minutes.

- *Where are you now and where are you going?*
- I'm at Ballston Metro and I'm headed to Clarendon.

- *Do you ride the Metro a lot?*
- Yes.

- *So, you're looking at the farechart, is it confusing?*
- Well, it says "minutes in fare from this station." Minutes, they got the minutes right here I believe. This is the line, the reduced, and the regular fares. So I'm looking to see Clarendon. How much to go to Clarendon... It says \$1.10...\$1.10, but I know its not \$1.10 'cause its rush hour. So...

- *What does that mean? (interviewer points at number next to the "\$1.10" writing on the sign)*
- Point zero four...4 cents? That's...that's supposed to be...um, I'm not sure. (laughter)

- *So now that you know how much your fare will be you've got to walk over to the other side (of the station) and remember it, right?*
- Yeah basically...

- *Do you think you can do that?*
- I think that I can do that.

- *So if you have to buy multiple fares can you add them together in your head and remember them?*
- Yeah, it's easy. It's common sense, you just got to know how to do it, and what the right numbers are (to add together).

Subject 2: Male, approx. 40-45 yrs. of age has just received help purchasing his pass from the station manager at Ballston.

- *Why was using the machine confusing for you? What did you find to be difficult?*

- Uh, there are different fares for different places, and that's what was difficult for me, but this gentleman helped me (referring to another rider). And what was most difficult was if you have to get off of one line and get onto another one...

- *Did you find the signs to be hard read?*
- There was no signs! (laughter) I couldn't find them!

- *But weren't you just looking at the fare chart?*
- Oh, that was easy to read, they are easy to read. But if you don't go and see the fares and then you come here (to the machine), you don't know what to do.

- *Do you ride the Metro often?*
- I ride the Metrobus, but this is the first time I ride the train.

Subjects 3-8: Interviewed at East Falls Church Station

Subject 3: Female, approx. 55-60 years of age, at the expanded "Passes/Farecards" machine.

- Has a five dollar bill, but doesn't understand where to insert the money into the machine, or what kind of change she will get back.

- She approaches the station manager's booth for assistance. He comes over to the machine and walks her through the purchase process, explaining the steps and the type of change she will receive back.

- She successfully purchases the ticket and tells me that she feels silly for having to ask the manager for help, and says that if there were better directions on the machine she might not have to.

Subjects 4, 5, 6, 7: Four males, approx. ages range from 35-60 years. All are Vietnamese, two speak English, one lives in California; all are visiting Washington, D.C.

- They approach the “Expanded Passes/Farecards” machine to purchase farecards but don’t know how much their fares should cost.
- One looks at the fare chart, but still needs to ask the attendant for help.
- The others begin, and end, 3 transactions unsuccessfully. They have difficulty finding the cancel button to end these unsuccessful attempts.
- When the station manager comes over to help they are walked through the purchase process.
 - The manager explains that they will need to combine non-rush and rush-hour fares to calculate their total trip costs.
 - He shows them how to select their preferred option of multiple single tickets.
- They only have a twenty with them and think they can use it because the machine says it will take it (one person points to the writing on the face of the machine).
 - The manager explains that the maximum change amount is \$5, and that it will all be returned in coins.
 - They dig through their wallets and come up with smaller bills to avoid getting \$10 in quarters.
- What they think the problems with the entrance system are:
 - The steps are not clear. The poster with directions was unhelpful because of language issues.
 - “It’s (the machine) not ‘user-friendly’,” one man explains.
 - Could not find the fare chart. Could not read it once they did. They said it was “confusing”.

Subject 8: Female, 74 years of age, at the “Farecard” machine.

- She explains that this is a dress rehearsal for a trip she will take to see her son on Thursday (its Tuesday now).
- She has had lots of problems using the machines in the past, especially she says, because she gets stuck at the other end of her trip and has to use the exitfare machine.
- She thinks this is because she can’t read the fare chart signs in the station very well.
 - She feels the interior is “dark,” and if she’s not wearing her glasses she says she can’t read the signs at all.
 - She explains that in cold weather her eyes water heavily increasing her vision problems. (The temperature is in the mid-30’s today and there are tears flowing down her cheeks.)
- Her paper money is not accepted by the farecard machine. The bills are rejected over and over, and she expresses that she wishes it took the new dollar coins.
- She decides to just use a \$5 bill for her next trip, not using the plus or minus buttons because they are too confusing.
- She wonders what to do after she puts in the money. “Do I just push this

button?” she asks aloud.

- She thinks that the buttons are easy to push, but that the screen is difficult to read because the letters on it are small, but mostly because of the glare across it, which is worse from her viewing angle than mine (I’m 5’10” and she is 5’3”).
- Usually she feels pressured by the line of people waiting behind her while she is using the machine. This sometimes means she doesn’t do the transaction right.
 - For instance, she will accidentally buy a farecard of the wrong value because she wasn’t able to take her time with the cost calculation. Then she won’t re-do the purchase since there are lots of people waiting and it would be a hassle.
 - This is also why she is here today at this time, approx. 2 p.m., in order to avoid heavy commuter traffic.
- Some of the machine’s features are very confusing. When she first read the directions for the farecard trade-in she wasn’t sure where to insert the farecard.

Subject 9: Male, approx. 35-40 years of age, states that he has ADD and is using the “Expanded Passes/Farecards” machine.

- Refers to learning disabilities in adults “information processing disabilities”.
- He is having a very difficult time retrieving sixty cents from his pocket.
- When he finally deposits the money into the machine he can’t remember which button to push.
- He says that with so much to read on the face of the machine and so many different tasks to perform, he gets distracted from what he’s doing, starts reading about something else, and then forgets to finish what he started.
- The farecard/passes machine “is intimidating to anyone who’s distractible”.
- He finds fault with the farecard machines in these ways:
 - Machine is visually busy, with too many colors and lots of lettering.
 - Too many distractions for users with impaired learning skills.

Subjects 10-12: Interviewed at Pentagon City and Ballston stations respectively

Subjects 10, 11: Two males, approx. 25-30 years of age. Recent immigrants from Brazil and Venezuela. They are on their way to work.

- The men can’t get their coin money into the farecard machine’s coin slot.
 - The coins are inserted and immediately fall through the coin rejection path in the machine, dropping again and again into the change bin.
 - The man bends down 3 times to pick his change out of the change return bin and insert it again.
 - He drops change on the floor twice.
- They generally find the machine easy to use, but when going somewhere new they need help reading the fare chart and the system map.
- They can’t find the button to push to receive their farecard, and accidentally push cancel. They have to start the transaction over.

- They find the screen easy to read and the interface controls easy to use.

Subject 12: Female, approx. 30-35 years of age, the mother of two children, ages 3 and 5, who are riding Metrorail with her. A non-English speaker, we speak Spanish.

- She said she does not have problems riding the Metro with her kids, and feels that they are safe with her on the train.
- She was able to use the system once someone showed her how.
- She thinks a language option, like on ATM machines she says, would be helpful.



fig 168 – a woman receives information from the station manager while her child sits nearby

The following two interviews were conducted with Metro station staff at the Ballston and East Falls Church stations respectively.

Subject 13: Male, Metrorail Station Manager at Ballston.

- *How long have you worked for the WMATA?*
- I've been at this station for a little more than a year, with Metro about 5 years.

- *Do people ever have a hard time buying tickets?*
- In this area, people are actually too smart and they do not read the instructions. They are actually too impatient, in too much of a hurry, to do the simple task.

- *Now, there's a pretty high population of non-English speakers in this area, do they ever have difficulties using the machines?*
- No, actually, the tourists, the out-of-towners, the foreigners have an easier time for the same reason that I just explained, they will ask questions. They will take the time to read and ask questions. That's why I'm here.

- *How about sight-impaired riders?*
- You'll find that sight-impaired folks will get around the Metro better than people who are sighted (sic).

- *Have you ever had any complaints from anybody who was sight-impaired?*
- Such as?

- *Not being able to find a map? Not being able to find the fares?*
- The biggest problem that they (sight-impaired users) would have, to give you an example, I have staggered escalators. If they do a repair on one then they barricade one, which upsets the routine of the system for them. I'm here regularly 5 days a week, and I'm close to a first-name basis with them, so I will get them and tell them to use the second one, or another one.

- *So they're all pretty regular system users?*
- They're pretty oriented to the system. On my shift I will have usually on average about 6 or 7 sight-impaired individuals. Wheelchair-bound, at this station I have one regular. She has a problem reaching the buttons. Another one has a dog. She has a problem calling the elevator, so I will send the elevator to her.

- *Is she able to purchase her own farecard?*
- You'll find the impaired person generally can take care of everything. Some of them use the SmarTrip, so it's a lot less motion, etc. Others still use the paper farecard.

Appendix D

- *If they were a first-time user though and they didn't have a smarTrip card, or a farecard, what would they do?*
- Best thing to do is come and ask me, just like everyone else. They will generally... they can use it...for example this first machine here. This first vendor here, is a handicap vendor, its smaller. See how much lower it is? It's the wheelchair accessible vendor. Same as this gate here is a wheelchair accessible gate. The problem with this gate is that everybody goes to it, and they have more problems with that gate because that gate is slower, and the card comes back to you, so they actually have more problems with it.

- *And everybody uses that gate because its bigger? Are they attracted to its size?*
- Its like a magnet! It draws them just like flies. Of all the gates here you'll find that 80% of the people will go to that gate.

- *Do you think the gates should be bi-directional?*
- No. For most things you have to K.I.S.S. it. Stands for keep it simple stupid. So the more simplistic you make things, the less choices you give to people, the easier the traffic flow will be.

- *Do sight-impaired individuals ever have problems reading the fare charts?*
- No.

- *But there are no Braille fare charts in the stations?*
- No, there are, there's braille all over this station.

- *Oh, because the farecharts I looked at didn't seem to have Braille on them.*
- No, they have it...they do... um, let me see.... Um, ok, that's a good point, I guess they don't, and I never thought about it before. Well, its like this, we are always here, to give help. We have the phone device (TDD), and every thing else, but I never even gave a second thought about there not being a Braille fare chart because even the regular sighted people have problems

using them (laughter).

- *Have you ever had problems with people not being able to watch their kids while they're buying a farecard?*
- Yes. You have every type of problem imaginable. For example, you have a person who's trying to buy a farecard, she goes to the machine, and the kids are just going bonkers swinging on the rails etc. Ok? Our first priority is safety.

[Tells story about asking a man to control his child. The man said that he'd sue Metro if they were asked to leave because his child was autistic.]

- "Up here on this level is one thing, but if you get down on that platform, and the kid is out of control, then you have a real safety issue."
- *What other kinds of problems have you had that might affect safety?*
- Scooters...you have to fold them up. Adults will ride a bicycle right into the station. Skates, roller skates, in-line skates. You got to take them off, and you can't go barefoot in the station so you need to have shoes to put on when you take off the skates. People don't think of that stuff.

[We take a break from the interview while he helps someone use the "Expanded Passes/Farecards" machine. He walks back over to me and says what follows.]

- They're attracted to that first machine there (points to the passes/farecards machine, something about the color or something. And they don't know what to do with it.
- *That appears to be a difficult machine to use.*
- Yes, and all the other machines there will do the same job much more simply, with the 1,2,3 painted on the machine. If you were to ask somebody a question, ask them "what's the 1, 2, 3 for?" They want me to tell them what its for. They don't read... its as easy as 1, 2, 3.
- *So that machine takes a lot of different functions and combines them into one machine, which can be pretty confusing. Do you think it'd be better if they split the functions out into different machines?*
- No.
- *Has anybody ever had anything stolen while they were using an automatic farecard machine?*
- Overall the system is really safe. We have isolated incidents, I've seen people have their stuff stolen, seen people get shot, all kinds of stuff. But overall, the system is safe.

[He next offers to show me the inside of the station manager's booth.]

- *What is this computer used for?*
- It tells me what all the machines inside the station are doing. See these are the gates. Tells you which are going in which direction, what's wrong with them if something breaks. These are all the farecard machines. It tells you if they have a problem, or the door's open, or they're out of change or cards. I can control them all from in here. And these are all the camera pictures, so I can watch the entire station at once (points to 5 black and white monitors).
- *Are the LED signs on the platform new? (I am looking at a screen displaying an image of the train platform taken with a closed circuit video system.)*
- They were just put in last year.
- *Are they helpful?*
- Yeah people don't come up here as often to ask when the train is coming. All the information is right there for you to look at.
- *Do people ever have difficulty understanding those signposts?*
- Well, its pretty straightforward, but some people who haven't been on the Metro before go to the wrong side and then the train comes and they realize that they're on the wrong platform.

[Another Metro rider approaches the booth to ask about fares. We decide to conclude the interview and I thank him for his time and assistance.]

The next interview with another station manager has been condensed in the same way that some of the riders' interviews were. Main points and informational highlights are presented in a summarized format rather than printing a verbatim translation in its entirety. As you read the interview you'll see that both station managers make similar points.

Subject 15: Male, Metrorail Station Manager at East Falls Church.

- He says that questions are being asked with high frequency by riders who need help using the farecard machines:
"That's all I do all day, is tell people how to use the machines."
- He thinks that people don't want to read the directions on the machines:
"The hardest part is getting people to just read, cause they don't want to read. It's (the farecard machine) self-explanatory really."
"Lot's of people come in and will just push buttons without reading."
- "The machine that they (Metro Riders) have the most problems using is the 'Expanded Passes/Farecards' machine," which allows users many different farecard purchasing options, including SmartTrip options.
- Regarding physically challenged users:
 - People rarely ask him to help them physically use the machines, but if they do, it's his job to lend a hand. This happens with very low frequency,

only when someone is physically handicapped or disabled.

- He explains that one machine has Braille writing on its surface, along with raised directional arrows indicating the order of usage operations. Nothing is provided to direct sight impaired users to that machine.
- He has not encountered any sight-impaired users who need extra assistance.
- Features he thinks are the worst:
 - Maximum change returned is not clear to riders. People don't realize that if they put in a \$20 dollar bill they have to purchase a \$15 dollar ticket, because the maximum amount of change returned is five dollars.
 - Change is returned entirely as quarters, nickels, and dimes; no bills. Dollar coins are not used in the system.
- Features he would like to see added to the farecard machines:
 - The ability to add together several leftover fares from several leftover magnetic strip cards. This is something you can easily do with SmarTrip passes, but not everyone invests in one of those.
- Additional entrance system issues he would like to see resolved include:
 - People don't see the fare charts, they just ask the manager, and there's a fare chart right there on the booth!
 - The map is hard to notice and is inconveniently placed on the other side of the station from the machines. Lots of people walk back and forth between the machines and the map.
 - People always need help with the Exitfare machine. There is no notice given to riders about extra costs that may accrue during the switch from non-rush to rush-hour pricing.

Metro Rider Survey 1

Thank you very much for taking the time to complete this questionnaire. The questions regard your general experiences with the Metrorail system. Results from this survey will assist me in better structuring our group sessions together. This should take no more than 10 minutes for you to complete. Again, thank you.

1] What transportation method(s) do you use to commute to and from work each normal business day? (If more than one method is used please list each, and the number of days of each business week that you use that method.)

M1: I ride the WMATA Metro 5 days per week.

M2: I walk to a bus stop. I ride the bus to a Metro Station. I ride the subway 8 stops. I walk to my office building. In the evening I do the reverse. About once a month I drive to the Metro Station, if I have to go someplace other than home, or leave at an odd time.

M3: Drive to MARC (commuter railroad) station, MARC to Metro (Union Station), Metro to office (Rosslyn).

M4: Drive my car each day - no passengers.

M5: Private auto from home to Metro Station (7 miles each way) then Metro to office (Franconia - Rosslyn). About 5 days per week usually (about two times a month I go directly from home to a client's site, or meeting place, this is not served by Metro Rail using my private auto – Tysons Corner and the Dulles corridor are specific examples).

M6: From time to time, I will drive my car to work, but normally I “slug” from Burke, VA to Rosslyn in the morning. In the evening I take Metrorail from Rosslyn to the Pentagon, then Metro Bus to Burke. Starting in about three weeks I will be driving my car to and from work most days.

2] Please briefly list the factor(s) that most contribute to your transportation choices. Some examples: Time, Ease of use, Cost, Convenience, Image, etc.

M1: From time to time, I will drive my car to work, but normally I “slug” from Burke, VA to Rosslyn in the morning. In the evening I take Metro Rail from Rosslyn to the Pentagon, then Metro Bus to Burke. Starting in about three weeks I will be driving my car to and from work most days.

M2: 1--Convenience. Public transport is within 2 blocks of both ends of my commute. 2--I hate driving around here. Have done that plenty often in years gone by.

M3: Convenience is the primary factor.

M4: Convenience arriving, necessity to have transportation to clients.

M5: 1--CONVENIENCE. Road network makes access to Metro station convenient (if a Metro Bus route was available I would consider using it in lieu of my automobile). Using my POV between the metro station and home (in evening) allows me to stop on the way for related errands or meeting my family for dinner. 2--TIME. It's about 60 minutes door-to-door using my transportation scheme. if I were to drive to work (which I do when I need to visit a client who is not located near Metro) the direct drive is only 25-30 minutes, but returning home can sometimes exceed 1 hour in the evening rush hours. 3--EASE OF

Appendix E

USE. I leave home at 5:45am on a regular basis in order to beat the local road traffic, find a convenient parking place at Metro, and beat the Metro congestion. If I can't beat the evening rush by leaving NLT than 4:15 pm, I usually wait until 6pm - just to avoid the 'hassle' of the crowded Metro and discourteous passengers!

M6: I use public transportation due to the lack of an available car. There are four drivers in my household, all of whom have jobs, but only three cars. I lost the toss. When I do have a car available, I usually take it because it's quicker, easier, and I don't have to be bound by bus schedules, so I have more FLEXIBILITY on what time I leave work in the afternoon. I will be driving again when my college-age kids head back to school.

3] How far from your home is the nearest Metrorail station?

M1: I live approximately 1/2 mile from the station which takes 10 minutes to walk.

M2: about 10 miles

M3: Approximately 30 miles to nearest Metro (12 miles to MARC).

M4: 2 miles

M5: 7 miles (the two available routes are the same distance; the one I use is faster and avoids the mixing bowl construction).

M6: Never measured it, but its maybe 10 miles. I live in Burke, VA... nearest metro is Franconia-Springfield.

4] Is there conveniently accessible bus service available to you for commutes to and from the station?

M1: Yes, but I choose to walk because of the short distance.

M2: Yes, the stop is one block from my house.

M3: N/A

M4: None that I know of, although new bus routes are created every few months.

M5: I don't believe there is. The last time I checked the Metro bus route nearest to my residence goes to the Pentagon (via 395). If there was route that went directly to the Franconia/Springfield Transportation Center I would consider using it.

M6: Yes, but I don't use it because the total trip time would be greater than what it is now.

5] How far from your place of work is the nearest Metro Rail station?

M1: Work is about 1/4 mile from the station, which takes 5 minutes to walk.

M2: two blocks

M3: two blocks

M4: 1.5 blocks

M5: two blocks

M6: about three city blocks

6] How often do you use the Metro Rail system? (Please circle your choice)

Never; Once a year on average; Once a month on average; Once a week on average; Several times a week; Everyday of the work week; Everyday plus some weekend use.

M1: Everyday commuting to/from work and a few other times per month for other reasons on weekends.

M2: Everyday of the work week.

M3: Everyday of the work week.

M4: Once a year on average.

M5: Everyday of the work week.

M6: Several times a week.

7] If you are a Metro rider, how long have you been using the system?

M1: I have been riding the Metro since I was a kid. I have been commuting to/from work on the Metro since October 2000.

M2: Full-time since February 1999.

M3: two years

M4: N/A

M5: 2+ years - since the day I started working at my current employer in May of 1999.

M6: About 11 months.

8] When riding the Metro, what farecard media do you use? (magnetic stripe, SmarTrip Card, etc.)

M1: I use the Metro SmarTrip Card.

M2: SmarTrip Card

M3: Metro farecards (employer furnished as incentive for using Metro)

M4: single pass magnetic stripe farecards when occasionally needed

M5: SmarTrip Card

M6: I just buy a mag-stripe farecard from the machines at the station. I usually buy a \$20 farecard, because then I get a 10% bonus, so the farecard actually has \$22 on it. I thought about getting one of the other types that are like credit cards, but didn't because there's an extra fee.

9] Please rate the following along a scale of 1 to 10, with 1 meaning "absolutely not" and 10 meaning "yes, always." Integers in between correspond to the

degrees of response in a graduated manner. If you would like to add anything to your answers, or would rather respond differently to the questions, please feel free to elaborate.

___ I find the fare charts and station signage easy to understand and use.

M1: 10

M2: N/A. I pay no attention to them. I have a SmarTrip card, and keep the amount high enough to go wherever I need to without worrying about 25 cents here or there.

M3: 1

M4: 8

M5: 9

M6: 10

___ I find the Metrorail system to be easy to use.

M1: 10

M2: 8--Works for me. The only improvement I need right now is for them to make the Smart Cards work on the buses too.

M3: 1

M4: 8

M5: 9

M6: 10

___ I understand the magnetic-stripe farecard vending machines well and find them easy to use.

M1: 10

M2: 9--Agreed. Tourists, however, do not. I observe them having difficulty regularly. Especially during the summer.

M3: 10

M4: 6

M5: 9

M6: 10

___ I understand the new multiple-pass/SmarTrip card machines well and find them easy to use.

M1: 10

M2: 9--I have no trouble using the machines (although I did in the past when it wasn't clear which button to push to get things started so that I could add money to the card).

M3: N/A

M4: N/A (This means no experience doing this function.)

M5: 8 (Have had them malfunction and it took 5 weeks to get a refund)

M6: N/A I don't use this machine.

___ I find the SmarTrip card system easy to use.

M1: 10

M2: 10--I think they are excellent.

M3: N/A

M4: N/A

M5: 10

M6: N/A I haven't used it.

___ I never need to ask a station attendant or another rider for help when purchasing my fare(s).

M1: 10

M2: 10--Haven't yet.

M3: 1

M4: 9

M5: 9 (only when the machine ate my \$33 fare card provided by my employer)

M6: 10

___ No one ever asks me for help when they are purchasing their fare(s).

M1: 8

M2: I have made the occasional suggestion to someone having trouble at an adjacent machine. Not often.

M3: 1

M4: 3

M5: 9 (I'll offer to help a tourist when I can. Most people are receptive to assistance.)

M6: 10

- Thank you for taking time out of your day to complete this survey.

Elizabeth L. Shirey

born August 12, 1976 in Fairfax, VA

Master of Science in Architecture with a Concentration in Industrial Design
Virginia Polytechnic Institute and State University (Virginia Tech)
2004

Model Fabricator, Community Design Assistance Center (CDAC)
Virginia Tech, Blacksburg, VA January 2002 – July 2002

- Constructed a 6' x 16' topographical model of the historic Christiansburg Institute site in Christiansburg, VA using AutoCAD and Rhinoceros 3D software, a LaserCMM rapid prototyping machine, and hand finishing techniques
- Installed the model in the Montgomery County Government Building in Christiansburg, VA for public display

Writer and Designer, College of Architecture and Urban Studies (CAUS)
Virginia Tech, Blacksburg, VA April 2001 – September 2001

- Designed and authored "Mapping the CAUS Shops: An introductory guide to shop safety and procedures," used by CAUS to educate in-coming undergrad and graduate students about the College's work shop facilities

Graduate Assistant: Plastics Shop and LaserCMM Technician
College of Architecture and Urban Studies
Virginia Tech, Blacksburg, VA August 2000 – May 2002

- Conceptualized Virginia Tech LaserCMM website, authored content, and directed website construction

Graduate Research Assistant, Carilion Health Care and Virginia Tech
Pediatric Patient Room Research and Design Project
Virginia Tech, Blacksburg, VA August 1999 – May 2000

Bachelor of Science in Psychology; Industrial Design Minor
Virginia Polytechnic Institute and State University (Virginia Tech)
December 1998

Vita



fig 169 - Committee member Bill Green and me (Liz) on graduation day.