

Putting the Cost of Accessibility into Perspective

presented at



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Roll a Mile

- Mandate to spread awareness about accessibility & disability
- Assist businesses & institutions implement accessibility & comply with regulations
- From a Unique Perspective
 - Our Consultants – you have to know it to teach it
- With a Unique Approach
 - clients, trainees and participants “ walk a mile in someone else’s shoes”

“ Tell me and I forget. Teach me and I remember. Involve me and I learn ”

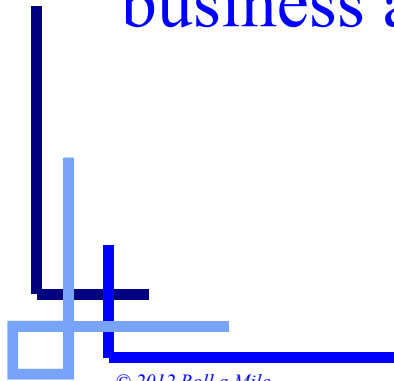
– Benjamin Franklin

OUR BIGGEST OBSTACLES:

Lack of awareness and misperceptions about the cost of accessibility

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Recent advances and expenditures in business and institutions



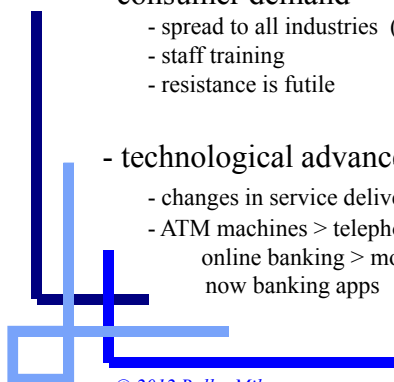
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Banking Industry

- access to services
 - installing ATMs, building foyers, reinforcing floors, kiosks
 - done to improve access to services through technological advances
- consumer demand
 - spread to all industries (debit machines)
 - staff training
 - resistance is futile
- technological advancements
 - changes in service delivery since inception
 - ATM machines > telephone banking > online banking > mobile banking > now banking apps



diamondkiosk.com



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RECENT EXPENDITURES

Business

- technological advances
 - retrofits, purchase / install / maintain / update computers
 - provision of corporate technology (ie. Smartphones)
 - training staff
- improved access
 - websites / online shopping portals
 - done to improve access to goods & services with new technologies

- government regulations
 - packaging: bilingual / nutrition labels
 - constant changes and costly modifications
 - Canadian Mint / vendors / cities



RECENT EXPENDITURES

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Restaurants

- government regulations
 - non-enclosed enclosures & patio heaters
- improved customer service & crayons!
 - expenditures to improve service delivery & customer service
 - crayons!!
 - cost of a few accessible menus vs. crayons = perspective
 - factor in value of preserving dignity and independence



RECENT EXPENDITURES

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Retail

- access to services, consumer demand
 - baby change stations & stork parking
 - adapted to accommodate needs of customers with young children
- Sunday shopping hours
 - recent example of improving access to goods and services
 - Original objections: increasing costs without providing significant benefit (AODA)
 - Increasing access to services created new markets and generated profit



RECENT EXPENDITURES

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Education

- Accessibility of Education
 - this month 58th Ann. of Brown vs. Bd. Of Ed.
 - speaking to student integration in “Applying ‘Brown v. Board’ to Higher Education”, Richard Kahlenburg writes:

“As we commemorate the anniversary of *Brown*, the broadening access to higher education suggests we need to think anew about applying *Brown*’s meaning to colleges and universities” (#9 Kahlenburg, 2012)

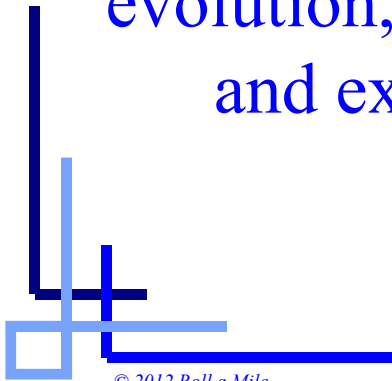
- Technological advances
 - adaptations and expenditures
 - telephone registration > online registration > remote learning > the globalization of education
 - new subjects from generation / decade ago



RECENT EXPENDITURES

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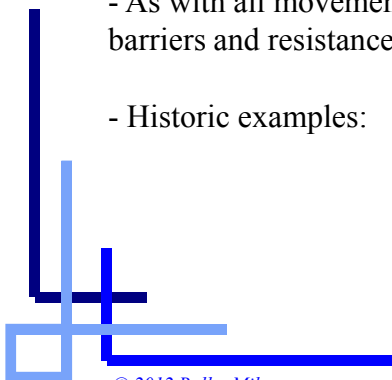
Social, political and economic influences on evolution, advancement, and expenditures



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Social, political & economic influences

- Not static environment, must always adapt & evolve
- Has always cost money
- As with all movements of social change, have to overcome barriers and resistance
- Historic examples:



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SOCIAL, POLITICAL, ECONOMIC INFLUENCES

Women in the Workplace

- Social, political, economic influences of World Wars
- women entering workforce in record numbers
 - Attitudinal and cost objections
 - expenses for physical adaptations (female change rooms in factories)
 - to objections fearing cultural costs (destruction of family, take jobs from men)
- “nice disabled don’t want access”



hdwallpaperdesktop.com

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SOCIAL, POLITICAL, ECONOMIC INFLUENCES

Environmentalism

- Consumer Demand
 - shifting cultural & social beliefs > consumer demand
 - motivating force for businesses wanting to remain competitive
 - 80% willing to pay more for green products (*6)
- Government Regulations
 - include freezing production of CFCs
 - globally – Koyoto Protocol & NAFTA side accord to resolve enviro. matters
 - has cost some businesses billions in pollution control equipment & other costs
- Consumer Demand + Govt Regs = Corporate Adoption
 - response to demand & regs. begin to see shift from protest to adoption
 - evolved from Pollution Prevention > Product Stewardship > Sustainability > New Tech
 - strategies to protect enviro & produce profits
 - resulted in new techs, processes and products



blueplanetgreenliving.com

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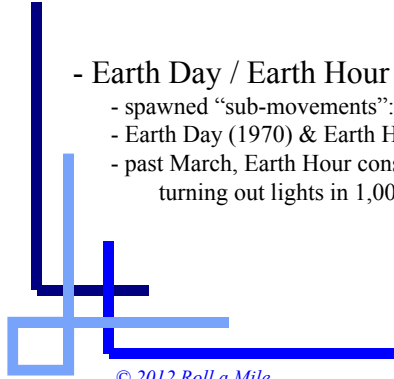
SOCIAL, POLITICAL, ECONOMIC INFLUENCES

Environmentalism

- adoption rate / critical mass
 - majority indicated you recycle
 - “green”, “organic”, “emissions”, “sustainability”
 - most consumers consider enviro issues when purchasing



- Earth Day / Earth Hour
 - spawned “sub-movements”:
 - Earth Day (1970) & Earth Hour (2007)
 - past March, Earth Hour conservation efforts in Guelph equated to turning out lights in 1,000 homes (March 2012)

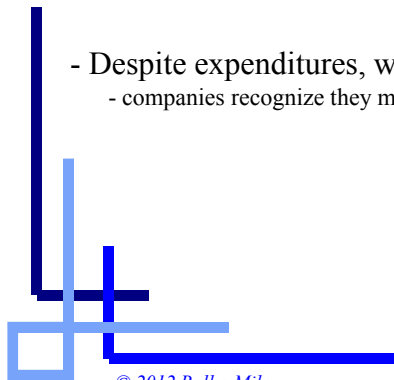


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SOCIAL, POLITICAL, ECONOMIC INFLUENCES

Environmentalism

- Environmentalism affects expenditures in all areas of business
 - Production: energy efficient, pollution controls, ecological design & development
 - Packaging – minimal, biodegradable, recycle-able
 - Delivery / Distribution – local, emission controlled
 - Billing – electronic vs. paper billing
- Despite expenditures, widely adapted
 - companies recognize they must adapt to remain competitive



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SOCIAL, POLITICAL, ECONOMIC INFLUENCES

Environmentalism

- Competitiveness:
 - headlines two weeks ago reflected results of consumer demand and govt regs with:
 - **“Not thinking green will hurt Canadian businesses internationally”**
 - study from National Round Table on the Environment & the Economy (NRTEE)

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SOCIAL, POLITICAL, ECONOMIC INFLUENCES

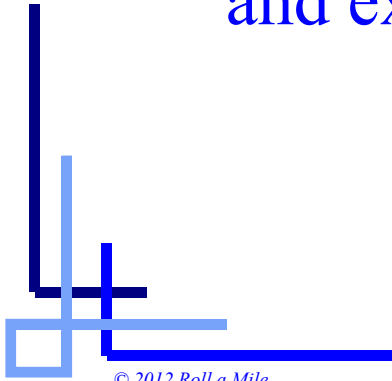
Adaptation

- Darwin: not strong but adaptable
- Non-Adapters:

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SOCIAL, POLITICAL, ECONOMIC INFLUENCES

Technological influences on evolution, advancement, and expenditures



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50 Years of Innovation

Business Office

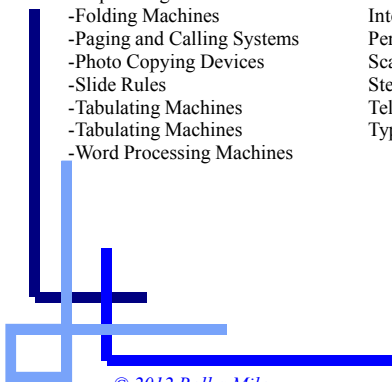
- Adding Machines
- Automatic Check Endorsers
- Bookkeeping Machines
- Check Protectors
- Combination Registers
- Copying Machines
- Duplicating Machines
- Folding Machines
- Paging and Calling Systems
- Photo Copying Devices
- Slide Rules
- Tabulating Machines
- Tabulating Machines
- Word Processing Machines

- Addressing Machines
- Automatic Typewriters
- Calculating Machines
- Coin Changing Machines
- Computers
- Counting Machines
- Facsimile Machines
- Inter-communicating Machines
- Perforating Machines
- Scales
- Stencil Cutting Machines
- Teletype Machines
- Typewriters

- Autographic Registers
- Billing Machines
- Cash Registers
- Coin Counters and Sorters
- Copy Holders
- Dictating Machines
- Finding and Filing Devices
- Numbering Machines
- Postage Machines
- Signature Writing Devices
- Stenographic Machines
- Time Recording Machines
- Visible Index Systems



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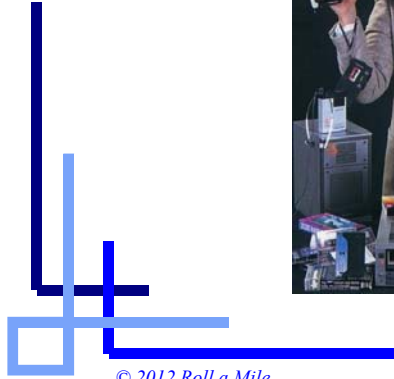
TECHNOLOGICAL INFLUENCES

25 Years of Innovation

All now fits in a pocket



www.buzzfeed.com



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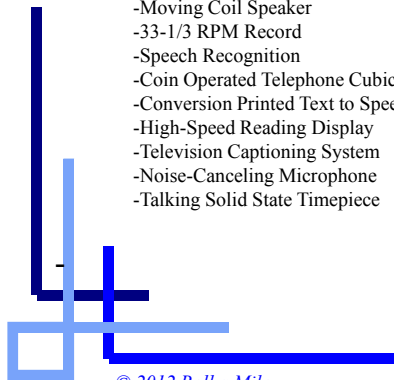
TECHNOLOGICAL INFLUENCES

Technology & Innovation

- Typewriter, telephone, tape recorder, and email were all originally developed by, or for, persons with a disability (*7)

Plus

- | | | |
|------------------------------------|------------------------------|--------------------------|
| -Punch Card Computer | Condenser Microphone | Loudspeaker |
| -Moving Coil Speaker | Dynamic Microphone | Stereophonic Recording |
| -33-1/3 RPM Record | Book on Tape | Transistor |
| -Speech Recognition | Telephone Volume Control | Sound to Light Converter |
| -Coin Operated Telephone Cubicle | Personal Digital Assistant | Flatbed Scanner |
| -Conversion Printed Text to Speech | Vibrating Pager | Alphanumeric Pager |
| -High-Speed Reading Display | Telephone Headset Amplifier | Chiming Wrist Watch |
| -Television Captioning System | Voice Dictation System | Screen Magnification |
| -Noise-Canceling Microphone | Talking Electronic Timepiece | Auto Dialer |
| -Talking Solid State Timepiece | Musical Keyboard | Talking Multi-meter |



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TECHNOLOGICAL INFLUENCES

Innovation & Curb-cut Effect

- Curb-cut effect

- The exponential nature of unexpected benefits inclusion & accessibility bring to society as a whole
- Named for curb-cuts - one of first urban accessibility accommodations , yet brought benefits to all pedestrians (older adults, strollers, carts, etc.)
- Recent examples: calling out the stops on public transit or text captioning
 - originally to assist viewers who are hard of hearing or deaf, but useful for many
 - ie) captioning useful in noisy places or so as to not disturb others



TECHNOLOGICAL INFLUENCES

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Technology & Accessibility

1900



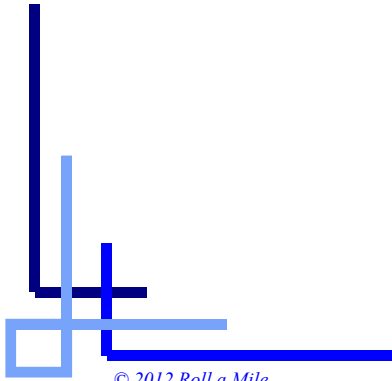
2012



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TECHNOLOGICAL INFLUENCES

Cost-effective accessibility



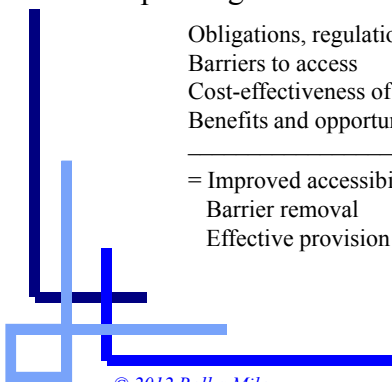
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Awareness

- most barriers result of lack of awareness
- awareness is key to accessibility
- expanding awareness

Obligations, regulations & compliance requirements
Barriers to access
Cost-effectiveness of accessibility
Benefits and opportunities of inclusion

= Improved accessibility and accommodation
Barrier removal
Effective provision of goods or services



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COST-EFFECTIVE ACCESSIBILITY

Awareness

BEYOND THE BUILDING CODE

- Rationale behind the Regulation

- Dr's office & clear door space
- once made aware, barrier removed

- Regulated accessibility vs. Actual accessibility

- Wash the Wheels
- will never be legislated but is accessible
- and cost effective (already do carts)

- Government-ese

- holiday hrs on communication vehicles (cost-effective)
(website, twitter, FB, v-mail, signage, ads, emails, etc.)
- in AODA speak:
 - temporary service disruption notification procedure



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COST-EFFECTIVE ACCESSIBILITY

Education

-Beyond accessible curriculums, need accessibility curriculums

- all disciplines
 - architects
 - designers
 - retail services
 - human resources
 - hospitality
 - computer eng.
 - info. sciences
 - developers
 - engineers
 - administration
 - marketing
 - tourism
 - criminal justice
 - planners
 - healthcare
 - business management
 - sales
 - recreation
 - social services

-Accessibility Implementation Models:

“There are opportunities to learn from the experiences of both Japan and the UK where accessibility has been addressed strategically by not limiting it to design alone but implementing it in a broad range of curriculums, representing future policy makers, technologists and bureaucrats”. (#1a) (MacDonald, 2006b)



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COST-EFFECTIVE ACCESSIBILITY

Education

Accessibility awareness curriculums that:

- Provide awareness of disability and barriers to access
- Develop an increased understanding of the benefits of accessibility and inclusion
- Outline accessibility obligations and requirements; purposes of the A.O.D.A. and the core principles of independence, dignity, integration, and equality of opportunity
- Discuss main characteristics and barriers for physical, hearing, intellectual, learning, visual and speech disabilities
- Address proper etiquette including appropriate terminology, vocabulary and attitudes
- Facilitate discussions pertaining to fears and prejudices in a non-judgmental environment to address common stereotypes and misconceptions to de-mystify disability
- Develop techniques, practical strategies and adaptive service skills and attitudes to create appropriate and effective methods of incorporating accessibility and accommodation into specific discipline and field of study



COST-EFFECTIVE ACCESSIBILITY

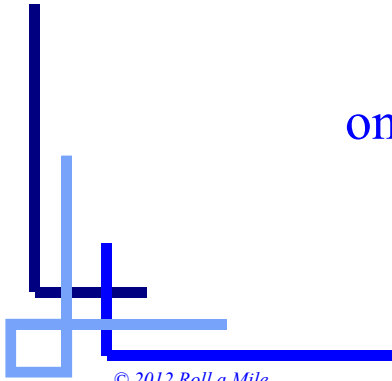
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Impact of Accessibility

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Impact of Accessibility

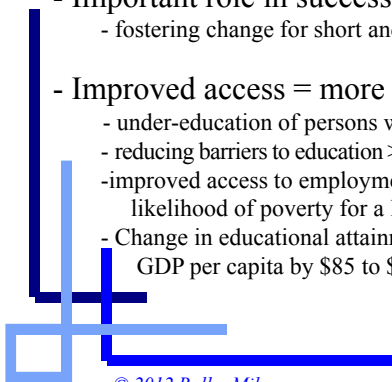
on Education



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Impact on Education

- Accessibility will have significant impact on attainment
 - build standard for accessible schools & classrooms
 - transportation standard for getting to campus
 - info & communication standard for accessible course materials & information
 - removal of barriers will provide an improved environment for all students
- Important role in success of AODA & accessibility
 - fostering change for short and long term
- Improved access = more prosperous society
 - under-education of persons with disabilities economic burden on society
 - reducing barriers to education > increase educational attainment & employment levels
 - improved access to employment & education could reduce likelihood of poverty for a large number of Ontarians
 - Change in educational attainment could increase GDP per capita by \$85 to \$200

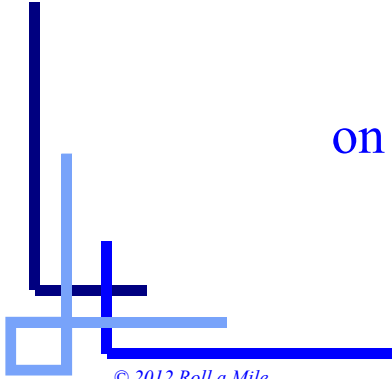


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IMPACT OF ACCESSIBILITY

Impact of Accessibility

on Employment



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Impact on Employment

“active engagement in the labour market should begin earlier, while people who have a disability are still in school” (#2) - Ontario Disability Employment Network Submission, 2001

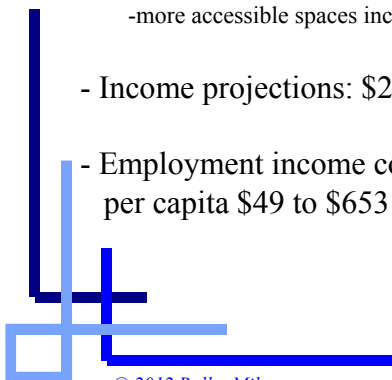
- Inclusion has cascading & cumulative effect
 - access to education > access to employment > greater earning power > tax revenue
 - more accessible spaces increase employment opportunities

- Income projections: \$29 to \$54 billion (2006 – 2031)

- Employment income could raise GDP per capita \$49 to \$653



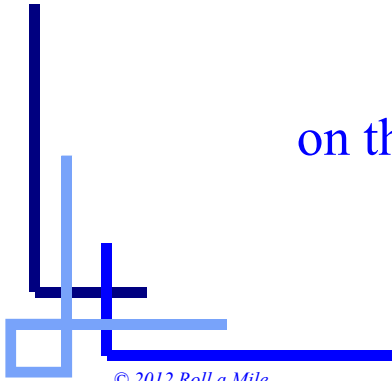
IMPACT OF ACCESSIBILITY



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Impact of Accessibility

on the Marketplace



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Impact on Marketplace

Consumer Demand

- motivating factor for adoption
- maturing population & increasing disability rates
- retailers may find consumers demanding accessible places, goods & services
- persons with disabilities already spending \$25 billion annually in Canada
- ally improves corporate perception, customer satisfaction + consumer loyalty
- resulting in increased & repeat sales

2 Trillion Opportunities

- Combined purchasing power is approx **\$2 trillion**
- Growing segment of the consumer market remains largely untapped
- Businesses can benefit by:
 - developing inclusively designed products, services & environments
 - compete globally – inclusive requirements
 - thus creating new opportunities and sales



IMPACT OF ACCESSIBILITY



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Impact on Marketplace

Increased Productivity

- Accessible workplaces allow all employees to become more productive
- aging population + shrinking labour pool = strong incentives for inclusive workplaces
- Exponential: ergonomic related injuries at \$19 billion from 1996- 2006

More Productive Spaces

“Inclusive building, way-finding, interior design and architecture can enhance the productivity of all users. Better access to equipment, greater comfort and mobility and a working environment where people feel valued through their inclusion all make Ontario’s labour force more productive. (#1c - CNIB, 2009a; b)

More Productive Products

- productive products designed to accommodate, are easier to use, apply & market
- Exponentially: reduce risk of liability claims for product related injuries, reduce product liability insurance premiums, etc.



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IMPACT OF ACCESSIBILITY

Impact on Marketplace

Increased Innovation

“When factors such as available knowledge, industry and occupational composition or government regulation shift in any given jurisdiction, businesses respond through increasing their rate of innovation (#1f - Bassanini and Ernst, 2002)

Extended Workforce Participation

- Ontario’s mature population is projected to increase significantly
- huge correlation between increased age & increased rates of disability / mobility
- more people, working longer

Inclusion & Diversity Drive Growth

- important drivers of economic growth & innovation
- AODA opens Ontario’s economy to an additional **1.7 million previously marginalized persons**
- enables public & private organizations to take advantage of highly diverse perspectives, abilities, & expertise to enhance their innovative capacity



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IMPACT OF ACCESSIBILITY

Impact on Marketplace

Tourism Sector

- \$400 million & \$1.5 billion in new spending on trips over the next 5 yrs

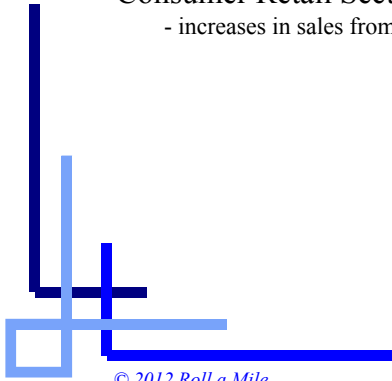
Consumer Retail Sector

- increases in sales from \$3.8-\$9.6 billion over the next 5 years



easierliving.com

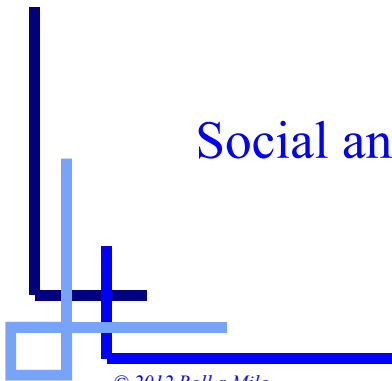
IMPACT OF ACCESSIBILITY



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Impact of Accessibility

Social and Economic Impact



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Social and Economic Impact

Price Tag Of Exclusion

- Exclusion of individuals has a negative impact on society & economic prosperity, and holds the price tag of unrealized innovation & social capital for groups & communities

Cost To The Family

- Exclusion erodes the smallest societal unit, the family,
- Too heavily relied upon to mitigate problems created by barriers to employment, education, products & services
- Families of persons with disabilities are at increased risk for living at or below poverty level, having a “depressed capacity to earn”, and additional support related expenses

Poverty & Disability

- Persons with disabilities 50% more likely to live at or below the poverty level
- disproportionately & persistently represented in lowest income groups



IMPACT OF ACCESSIBILITY

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Social and Economic Impact

Cost To The Community

- Exclusion from full array of social life; employment, consumerism, and recreation, costs not only the excluded individual but the society as a whole
- diversity creates better groups, firms, schools & societies
- diversity of perspectives= faster growing & more productive cities & countries

Cost Of Social Programs

- huge financial incentive to remove barriers as better access to employment & education could reduce or eliminate reliance on social & income support services

Healthier Society

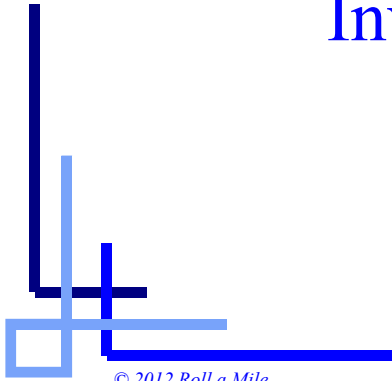
- Inclusive societies are healthier
- Increasing accessibility can lead to lower rates of unemployment, poverty, ill health & depression and lead to greater earning power & tax revenue while saving on medical and healthcare costs



IMPACT OF ACCESSIBILITY

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Return On Investment



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Return on Investment

(Expenditure vs. Investment)

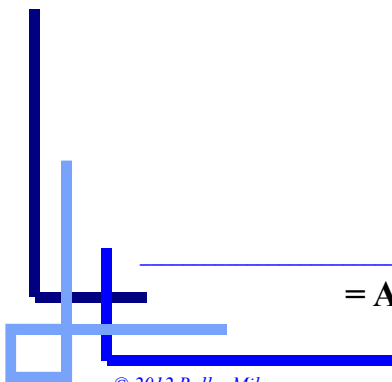
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Implementation costs
Enforcement costs

+

Cost of non-compliance (\$100K/day)
Value of preserving dignity and independence
Increased level of educational attainment
Increased productivity and innovation
Benefits of inclusion and diversity
Increased revenue: tourism, retail, industry, etc.
Increased participation in employment
Increased participation with society
Healthier society
Reduction in reliance on social programs
Curb-cut effect – Accessibility Benefits All

= **Accessibility (Priceless)**



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RETURN ON INVESTMENT

Conclusion

Achieving Accessibility

Have the potential

“Canada is a country that believes in freedom, dignity, respect, equality and fair treatment, and opportunity to participate. It is a country that cares for the disadvantaged at home and elsewhere, a country that prefers peaceful solutions to disputes. Canada is a country that, for all its diversity, has shared values”^(#10)

“Shared Values: The Canadian Identity”, Ministry of Supply and Services Canada, 1991

Have required elements

Consumer Demand – Govt Regulations – Corporate Adoption – New Tech

Profitability of Accessibility

Accessibility can be a profitable endeavour with economic & social gains offsetting negligible implementation & enforcement costs

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POSSIBILITY OPPORTUNITY ACTION

Citations

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