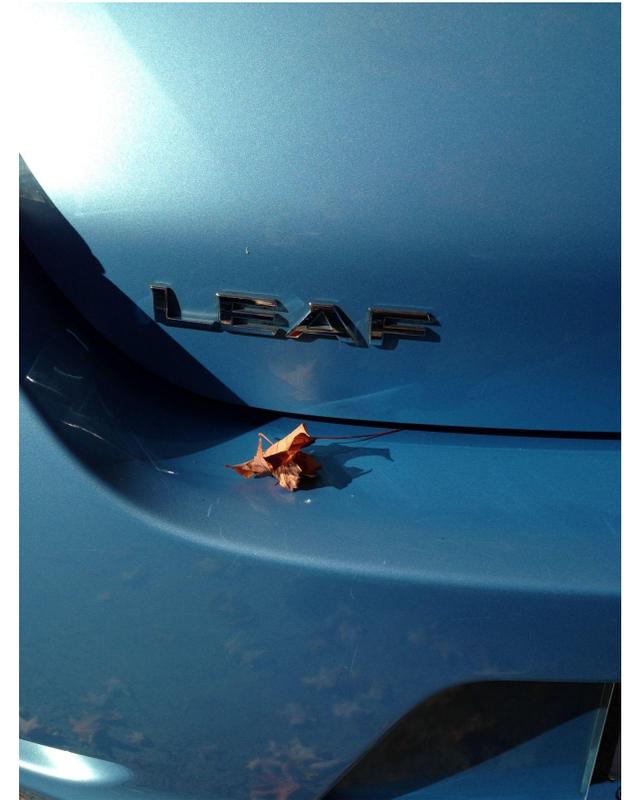


Climate Conversations Transportation

Saint Mark's Creation Care Ministry
Richard Hartung and Richard Wesley
4 October 2022



Agenda



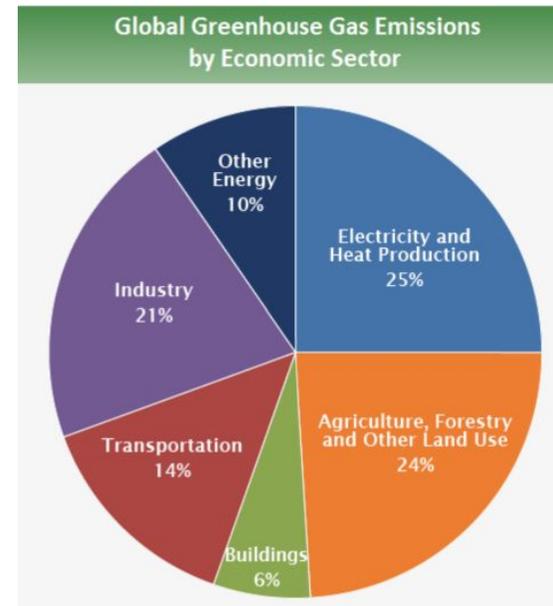
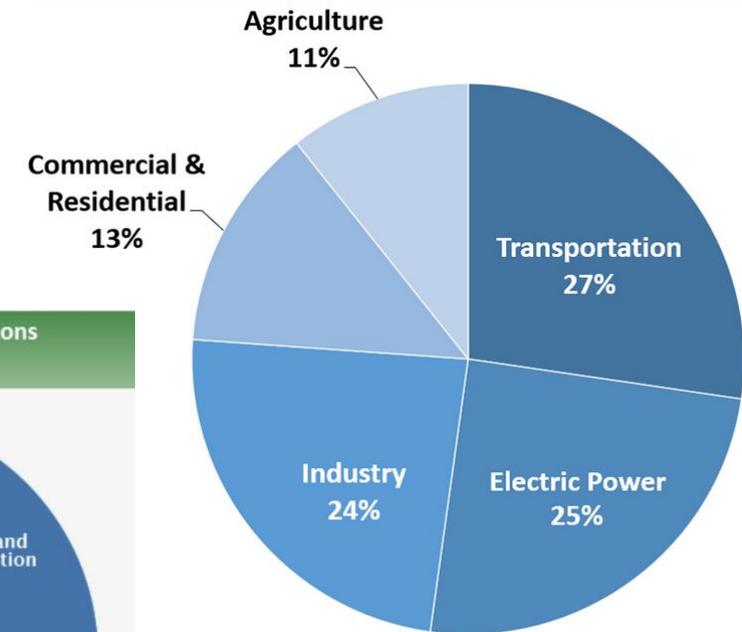
Credit: Auntie P, Flickr, CC BY-NC-SA 2.0

- Introduction
 - Land Acknowledgement
 - Opening Prayer
- Personal Mobility
 - Impacts
 - Reduction
 - Breakout
- Goods Transportation
 - Impacts
 - Reduction
 - Breakout
- Closing Prayer

Transportation and Climate Change

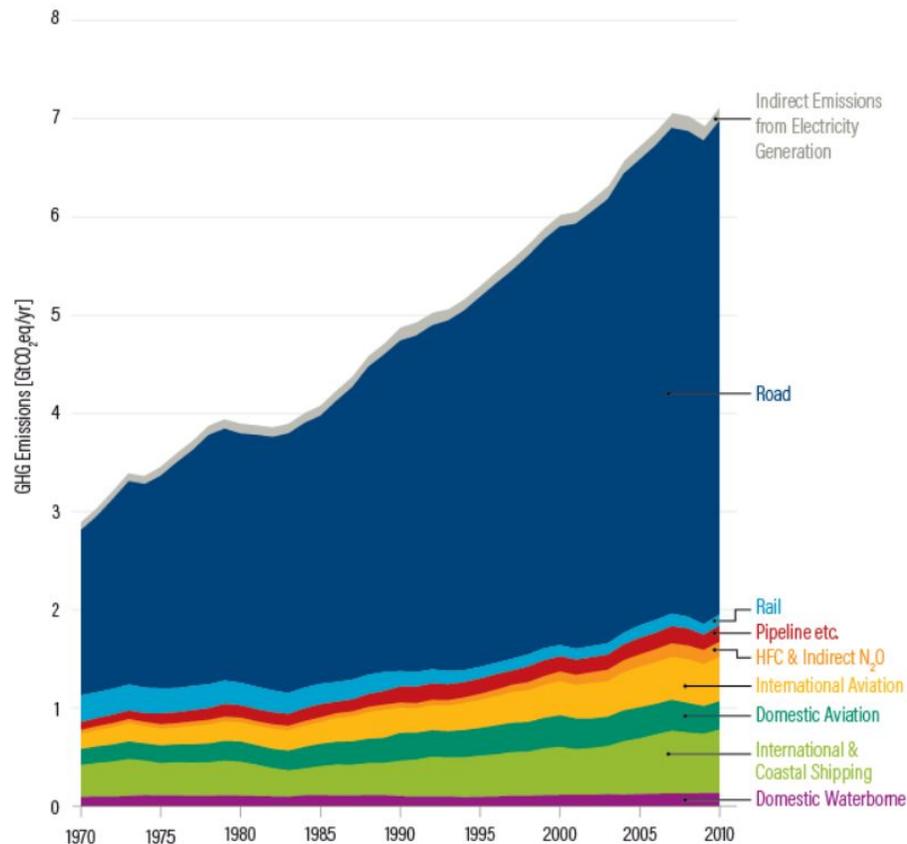
- Transportation creates **27%** of US greenhouse gas (GHG) emissions
 - 14% of global emissions
- Sources:
 - Cars, trucks, planes, trains, ships
 - **Personal** and **public** road transport
 - Road freight and trucking
 - Shipping – 10% of GHG by 2050
 - Less visible and less regulated
 - Rail is 1% of GHG emissions

Total U.S. Greenhouse Gas Emissions
by Economic Sector in 2020



Transport Emissions are Increasing

Where do transport emissions come from?



- Demand for **transport is growing** faster than GDP
- Emissions are **harder to abate**
- Higher travel volume **greater than efficiency improvements**
- Higher growth in low income countries and communities

Individual Actions Cause Carbon Emissions

- Using **1 gallon of gasoline creates 20 pounds** of CO₂ emissions
 - Switching from a 20-mile commute alone by car to public transport reduces emissions by 4800 pounds/year
- A ton of CO₂ **shrinks summer sea ice cover** by 32 sq. ft.
 - Your share of emissions on a one-way flight from New York to Los Angeles



The Bible and Transport



- *The righteous care for the needs of their animals - Proverbs 12:10*
- *If you see the donkey of one who hates you lying down under its burden, you shall refrain from leaving him with it; you shall rescue it with him - Exodus 23:5*
- **Find balance** between mindful stewardship without denying ourselves the chance to enjoy all that different experiences have to offer

Action: Cycle, Scooter, Walk

- **Bicycles**

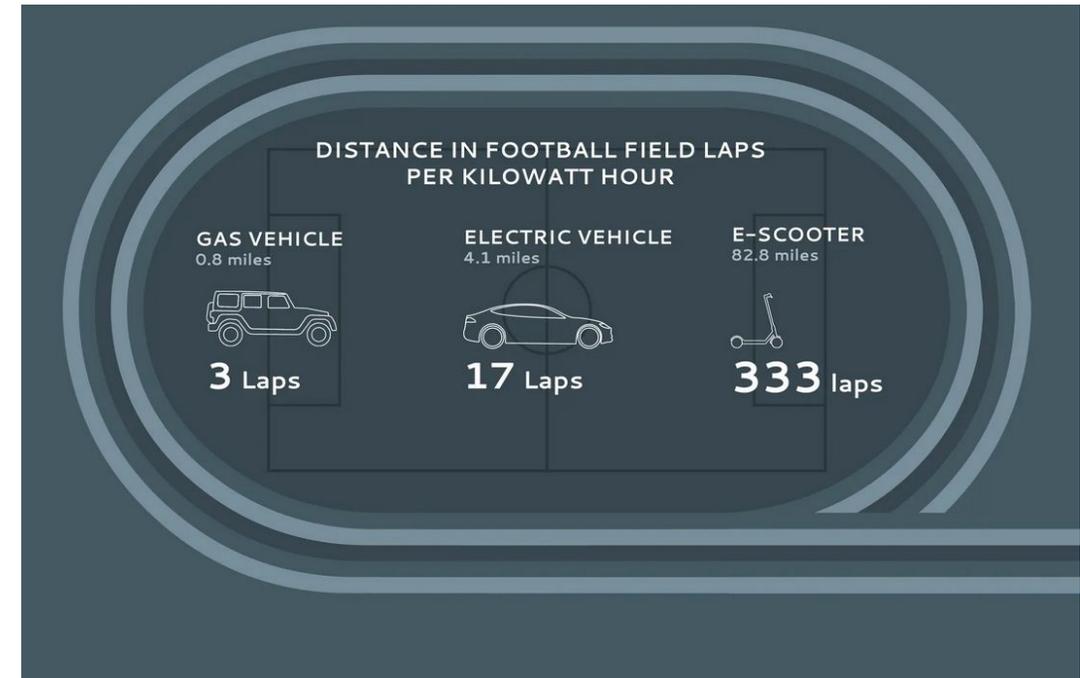
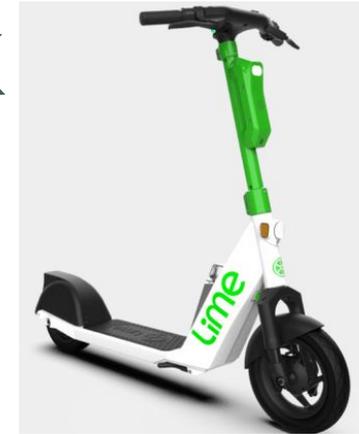
- Buy, share or rent – Lime and Veo
- E-bikes
- Cyclists have 84% lower CO₂ emissions than non-cyclists

- **Scooters**

- Walking uses 9 times as much energy and bicycling 4 times as much energy as using a scooter (Wired)

- **Walk**

- Good for your health
- Improves consumption mindfulness



Action: Public Transit for Everyday



Credit: Brett VA, Creative Commons 2.0

- **Many modes**
 - Bus, light rail, commuter rail, ferries, trams
 - Mix modes (bikes + train!)
- **Plan your schedule** around transit
 - King County Metro trip planner
 - <https://tripplanner.kingcounty.gov/#/app/tripplanning>
 - OneBusAway (app)

Action: Public Transit to Get Away

- **Trailhead Direct**

- Public transit to I-90 trailheads
- Mt. Si, etc.
- <https://trailheaddirect.org>



- **Ferries**

- Salish Sea Islands
- Peninsula



Action: Choose the Right Gasoline Car



- **Smaller Gasoline**
 - New Maruti Alto 796 cc for \$4,900
 - Chevy Spark 1400 cc for \$15,000



- **Hybrid Gasoline**
 - Toyota Prius
 - Hyundai Ioniq
 - 40-58 mpg
 - Save \$1000/year

Action: Choose the Right Electric Car

- All Electrics
 - IRA Tax Rebate
 - Home charger (deductible)
 - Lower emissions
 - **Lower fuel costs** (\$0.04/mile)
- Plug-in Hybrid (PHEV)
 - Can go **6 months without fuel**
 - Gas backup for long trips
 - Complex drive chain
- Electric Vehicle (EV)
 - **Lower maintenance costs**
 - Long trips require planning



Hyundai Ioniq Plug-in



Kia Niro

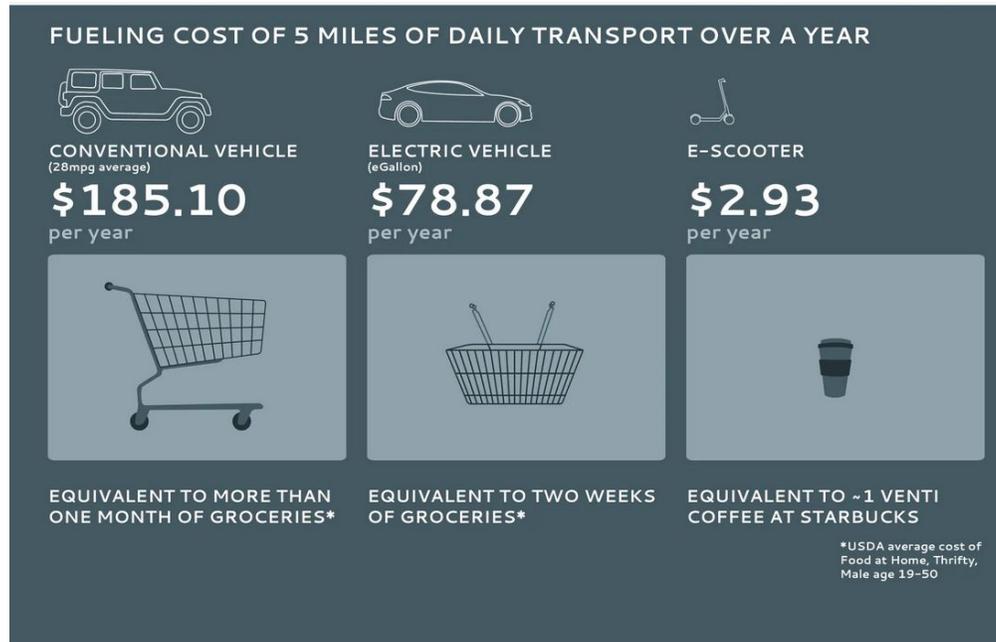


Chevrolet Bolt



Nissan Leaf

Action: Drive Wisely



- Save 10% of fuel & **\$390+**
 - **Acceleration** and **deceleration**
 - Follow **speed limits**
 - Turn the car off (30 second rule)
 - Below 60 mph, open the window and turn off the AC

Action: Maintenance

- **Tune-up** saves 4%-40%
- **Air filter** saves 10%
- **Tire pressure** saves 3%



Action: Sharing



- Carpool
 - **Office** commute
 - **School** for children
 - **Church**
 - Colleagues or Waze Carpool
<https://www.waze.com/carpool>
 - Scheduling and backups
- Car sharing
 - Zipcar and Gig

Action: Reduce Driving

- Telecommute
 - More **flexible**
 - Reduces road congestion
- Stay Local
 - Restaurants
 - Entertainment
 - Builds **community**
- **Plan** trips



Action: Travel Smart for Leisure



- Reduce travel
 - Stay local
 - **Drive** for 300-500 mile trips
- Travel by **train**
 - Move around!
 - Look outside!
 - Difficult in US (**Coastal Starlight**)
 - Often wonderful abroad (300 kph!)
 - ICE (Europe)
 - Shinkansen (Japan)

Action: Fly Smart for Leisure

- Choose the right air travel
 - **Non-stop**
 - Fuel-efficient
 - Frontier is 43% more efficient (newer planes)
- **Pack light**
- **Carbon offset**
 - Saint Mark's web site

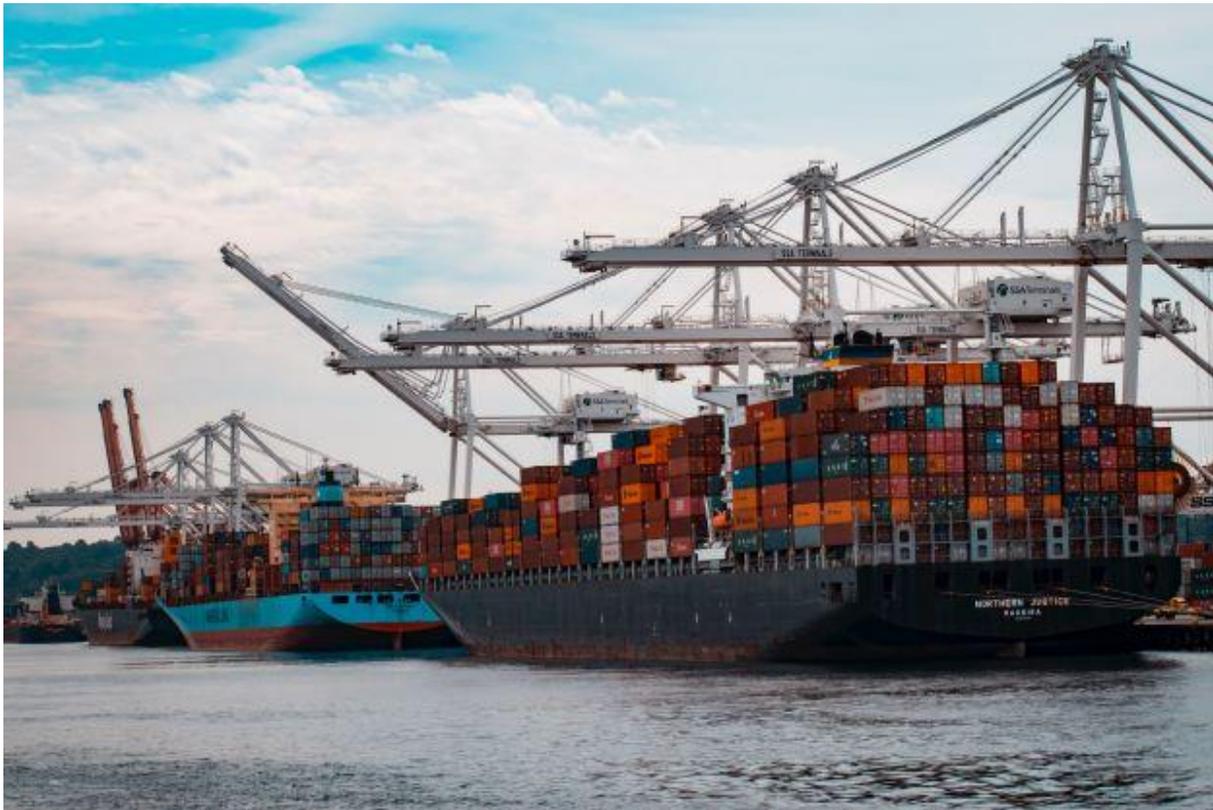


Discussion & Breakout Session

- How might you **change your car usage** and driving?
- **Where** will you travel and how will you get there?
- How can you walk or bike more to **replace driving** a car?



Think Broadly - Transportation Footprint



- Transportation is **more than personal movement**
- Almost **everything we buy** requires transport
- Reflections on transportation
 - Travel
 - Buy
 - Eat

Reframe Travel

- Travel may be:
 1. A search for identity (find myself)
 2. A quest for validation (be see/accepted)
 3. Pursuit of meaning (substitute for purpose)
 4. Happiness (titillate and medicate)
- We **shouldn't measure our worth** in airline miles or exotic destinations
- Our **motivation** should be God's glory and the good of our neighbor
- **Opportunities to share** the gospel and extend mercy



Reconsider Your Travel



- Consider the **why** of travel -
 - Why do we go the distances from point A to point B
- The irony
 - People who visit places at risk of disappearing because of climate change **hasten the demise** of those places by flying there.

Travel to Nature – Locally

- *“**Everybody needs beauty** as well as bread, places to play in and pray in, where Nature may heal and cheer and give strength to body and soul alike”*
– John Muir
- *What touches me is **a great spiritual power**, I would say God. I felt it very especially out in the forest, out in nature.*
– Jane Goodall
- *“We need **the tonic of wildness**... We can never have enough of nature.”*
- Henry David Thoreau



Purchases Require Transportation



- Buy **less**
 - No transportation required!
- Buy **local**
 - Combine shopping into 1 trip
- Use **e-commerce**, to drive less
 - Delivery routes are more efficient
- Reduce delivery emissions
 - Avoid one-day delivery
 - Combine orders and delivery dates

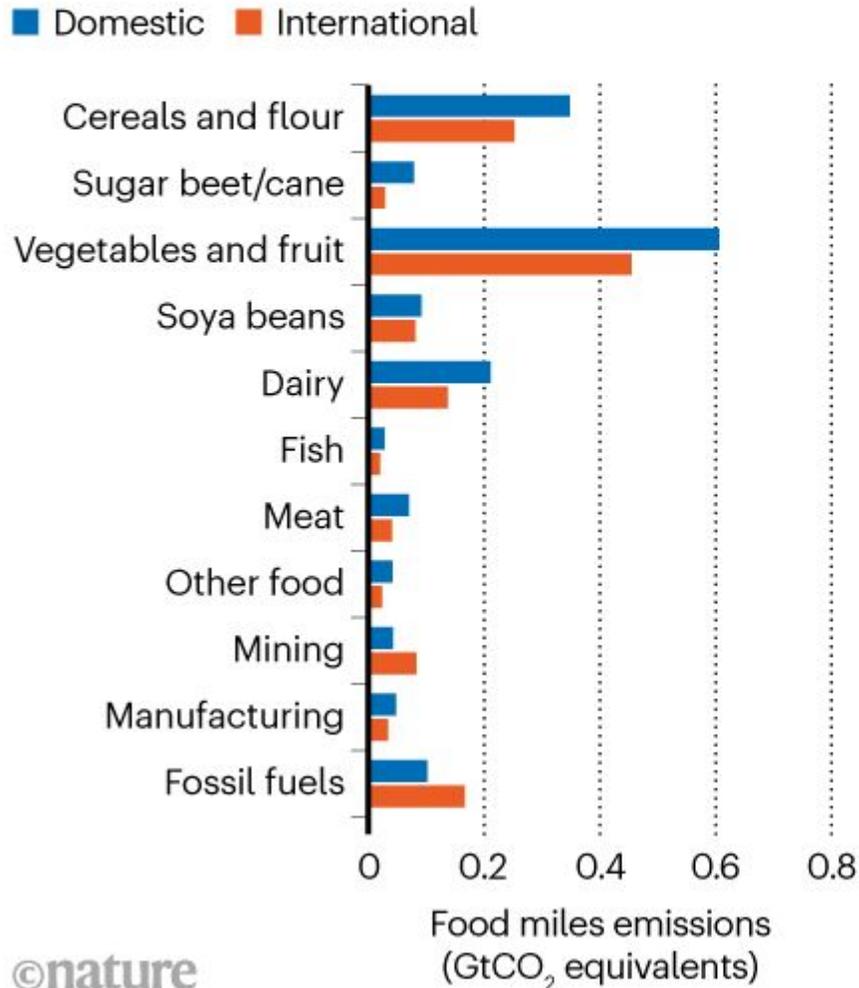
Purchase and Deliver Differently

*“Are we prepared to **wait longer** for a product to be delivered? If container ships travel slower, they use less fuel. Are we prepared to use a replacement part for our car that has been recycled? Repair instead of replace would make a huge difference to supply chains.”*

– Gabrielle Durisch, Zurich Insurance



Eat Local



- Wealthy nations **import food** from around the world
 - Uses refrigeration when moving fresh fruit and vegetables
- Transporting ingredients and food products causes **1/5 of carbon emissions** in the food system
 - 3 gigatons/year
- **Moving fruit and vegetables** generates twice the amount of CO₂ produced by growing them

Eat Local

- Choose foods **grown locally**
 - Check for the country of origin
- Local foods in Washington:
 - Vegetables, fruit, eggs, beer, wine, honey, grain
- Eat fruits and vegetables **in season**
 - Taste better!
- **Research restaurants**
- Freeze or can food
- Community Supported Agriculture (CSA)



Sharing, Discussion and Q&A



- How can we **change what we purchase?**
- What should we **consider when we travel?**
- How can we **do more to buy local**, other than farmers markets?

Make a Difference

*“Every individual matters and has a role to play in this life on earth. The chimpanzees teach us that it is not only human but also non-human being who matter in the scheme of things. Above all we must realize that **each of us makes a difference with our life.** Each of us impacts the world around us every single day. We have a choice to use the gift of our life to make the world a better place – or not to bother.”*

– Jane Goodall



Photo by Stuart Clark

Closing Prayer

