
Estimating Greenhouse Gas Emissions in the Transportation Sector

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Recent Graduate (For Hire)

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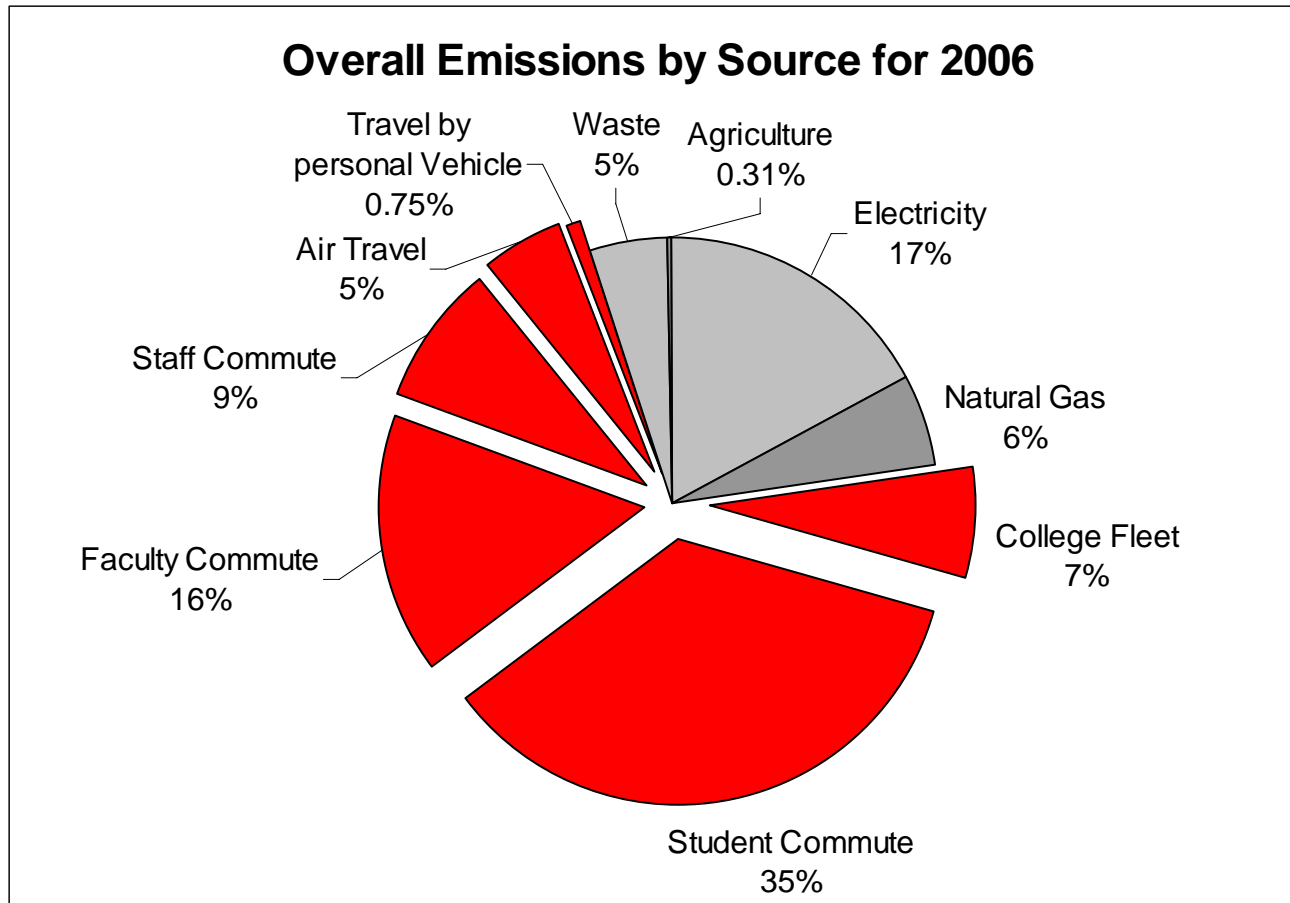
Estimation

- Not exact science
 - Policy science
 - Best estimation
-

Calculator Choice

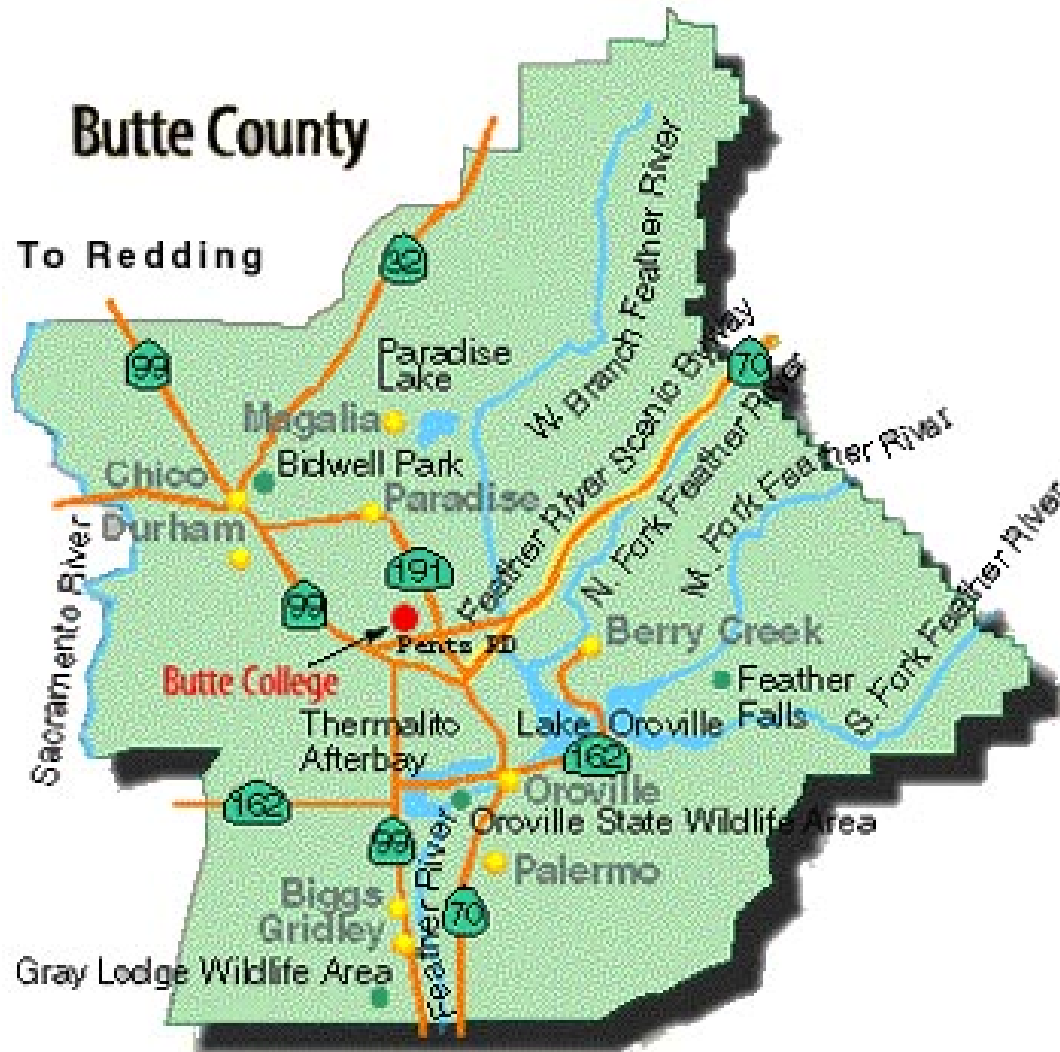
- Accuracy
 - Use
 - Cost
 - Support
 - Availability
-

Transportation Emissions accounted for 72% of overall emissions for Butte College



Butte County

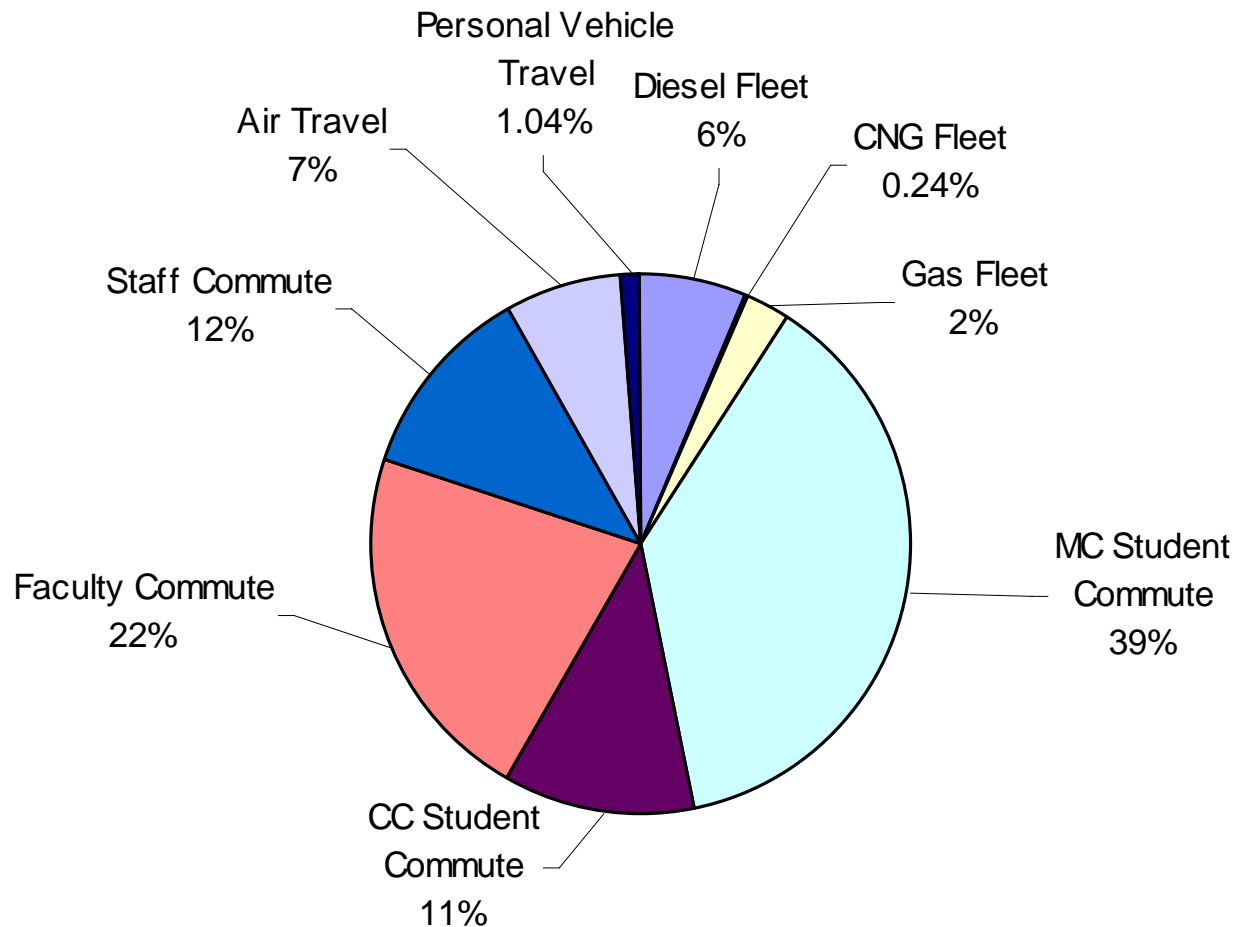
To Redding



To Sacramento

Transportation Emissions by Source

Transportation Emissions By Source For 2006



Gathering Data

- Perspectives:
 - Where are you on campus?
 - Who are your allies?
 - Powerful / Influential Friends
-

Gathering Data

- Slow is smooth, smooth is fast
 - Kindness and understanding go a long way
 - Flexibility
-

Gathering Data: Commute

- Creating the survey
 - Get help
 - Simple
 - Work backwards from desired result
-

Gathering Data: Commute

- Distributing the Survey:
 - How?
 - Who?
-

Sample Survey

- Detailed
- Specific
- Too Complicated

Commuting Survey of Butte College Main Campus

DON'T TAKE THIS SURVEY IF YOU ARE UNDER THE AGE OF 18

1. Please check only one box:

Student	<input type="checkbox"/>
Faculty	<input type="checkbox"/>
Staff	<input type="checkbox"/>

2. How many **round trips** to campus do you make (including multiple trips per day) using:

Walk/Bicycle	<input type="checkbox"/>	Personal Vehicle	<input type="checkbox"/>
Bus system	<input type="checkbox"/>	Personal Vehicle Carpool	<input type="checkbox"/>

3. How many miles do you commute to campus **one way**?

4. If you don't know how many miles, where do you commute from (address, city) ?

5. If you use a gas-powered personal vehicle, what is its average mileage (MPG)?

6. If you don't know the mileage, give year make and model:

7. If you use a personal vehicle, what type of fuel does it use and what blend (if applicable)?

Gasoline	<input type="checkbox"/>	Ethanol	<input type="text"/>
Diesel	<input type="checkbox"/>	Electric	<input type="checkbox"/>
Bio-diesel	<input type="checkbox"/>	Other	<input type="text"/>

8. How many occupants ride in the car if carpooling?

9. If the district had express bus service from Chico to the main campus and back every hour, would you use it?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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10. The district is now offering night bus service from Chico & Oroville, to the main campus. Now that you know, would you use it?

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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Gathering Data: Commute

- **Statistically Sound Sample**
 - Random Selection
 - Large enough sample size
 - Sound unfamiliar? Look for your resident expert
-

Gathering Data: Commute

- Finesse, Finesse, Finesse
 - Asking a lot
 - People are VERY BUSY
 - Perspectives: Yours, Theirs
 - Over-taxed instructors
 - Use those allies (President ?)
 - Take a lot of time
 - Fair warning, Choice of survey time, confirmation
-

Gathering Data: Fleet Emissions

- Where is information located?
 - Facilities?
 - Agriculture?
 - Police Academy?
 - Finesse, Flexibility and gentle persistence
-

Gathering Data:

Business Transportation

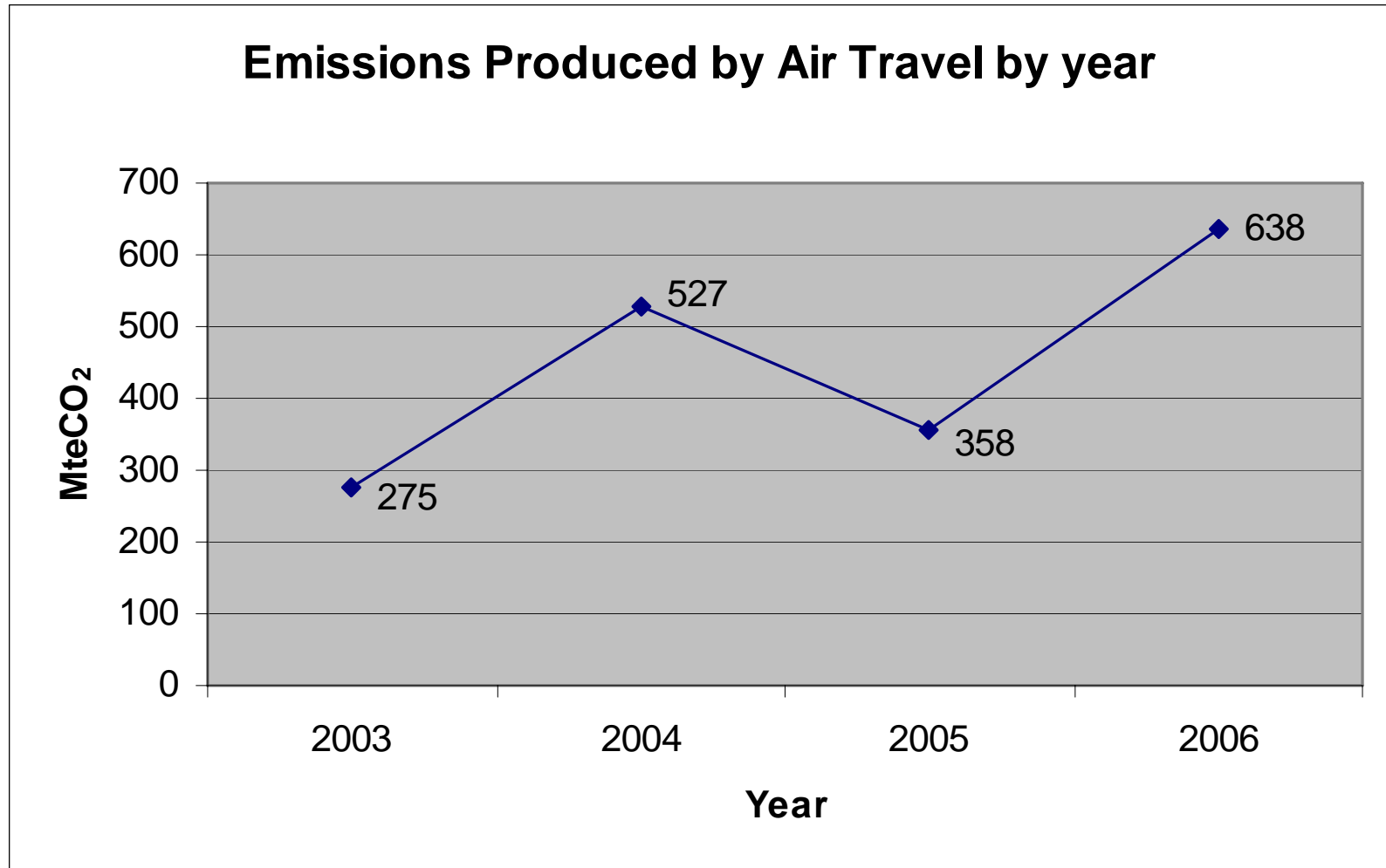
- Work backwards from desired information
 - Slow is smooth, smooth is fast
 - Allies!
 - Records may not be readily available
 - Asking a lot of work of someone else
 - Be willing to do the grunt work
 - Be willing to find it all yourself
 - Possibly personal information, be respectful
-

Gathering Data:

Business Transportation

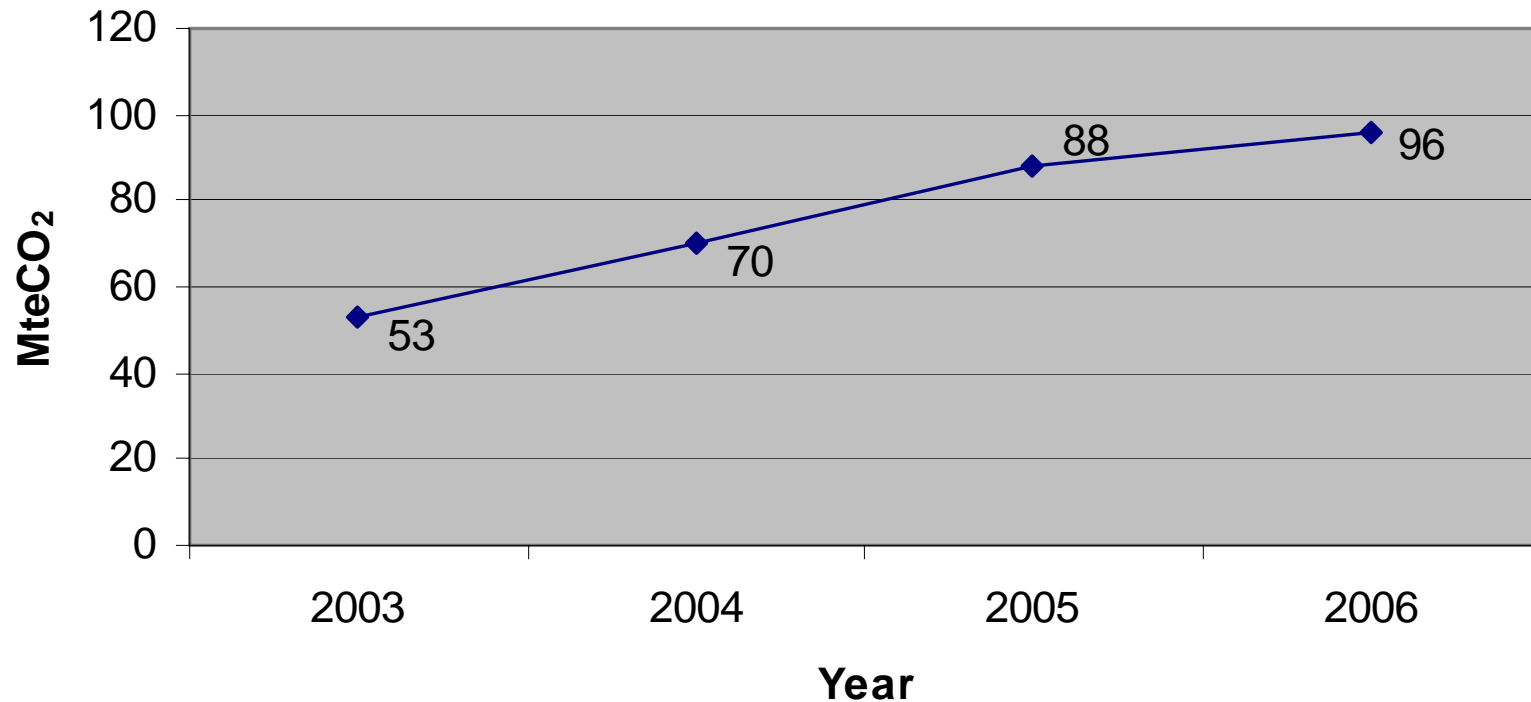
- Great deal of variation in information
 - Be flexible
 - Get a keyboard cover (carbon copy doesn't come off)
 - Consistent calculation of miles
 - I used Microsoft Flight Simulator, accurate to .10 mile, curvature of earth, no variances for traffic
 - (see Calvin)
-

Alarming Trends



Alarming Trends

Emissions Produced by Reimbursed Personal Vehicle travel by year



Need Help?

- National Wildlife Federation's [Campus Ecology](#) program awards fellowship grants to undergraduate and graduate students who are committed to reduce their campus carbon footprint; projects including: greenhouse gas inventories, climate action plans, energy conservation and efficiency, habitat restoration, convening climate action gatherings and more will be considered.

Grant awards: Up to \$2000 for Undergraduate Students

Up to \$5000 for Graduate Students

Fall deadline: October 1, 2008. Additional submission deadlines throughout the year.

Visit www.nwf.org/fellows for details about the Campus Ecology Fellowship program.
