Moving Holidays in Transportation Data Series
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Travel Patterns

- Passenger travel occurs both before, on, and after a holiday
- Travel pattern depends on whether holiday occurs on same day of the week (e.g., Thanksgiving) or varies (Christmas)

**Long Distance Trips Before and After Thanksgiving, 2001 (all modes)**

![Graph showing long distance trips before and after Thanksgiving, 2001 (all modes)](image)

1. **100+ trips**
2. **50-99 mile trips**
3. **Average daily long-distance trips rest of year**

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, Federal Highway Administration, National Household Travel Survey 2001
Travel Patterns When Day of Week Changes

Long Distance Trips Taken During the Christmas/New Year Holiday Period, 2001 (all modes)

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Federal Highway Administration, National Household Travel Survey 2001
Transportation Specific Holiday Regressors

- Holidays that affect more than one month are included as regressors in seasonal adjustment models to control for the year-to-year variation they introduce.
- The Bureau of Transportation Statistics developed transportation specific holiday regressors to capture transportation activity before and after a holiday.

### U.S. Holidays with Transportation Activity Affecting Months Other than Holiday Month

<table>
<thead>
<tr>
<th>Holiday</th>
<th>Holiday Travel Period</th>
<th>Months Impacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easter</td>
<td>Thursday before to Tuesday after (6 days)</td>
<td>March, April</td>
</tr>
<tr>
<td>Memorial Day</td>
<td>Friday before to the Tuesday after (5 days)</td>
<td>May, June</td>
</tr>
<tr>
<td>Labor Day</td>
<td>Friday before to Tuesday after (5 days)</td>
<td>August, September</td>
</tr>
<tr>
<td>Thanksgiving</td>
<td>Tuesday before to Sunday after (7 days)</td>
<td>November, December</td>
</tr>
</tbody>
</table>

- **Christmas**
  - If Christmas falls on a Monday: 23rd through the 1st (10 days)
  - If Christmas falls on a Tuesday: 22nd through the 1st (11 days)
  - If Christmas falls on a Wednesday: 21st through the 1st (12 days)
  - If Christmas falls on a Thursday: 23rd through the 4th (13 days)
  - If Christmas falls on a Friday: 23rd through the 3rd (12 days)
  - If Christmas falls on a Saturday: 23rd through the 2nd (11 days)
  - If Christmas falls on a Sunday: 23rd through the 1st (10 days)

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Bureau of Transportation Statistics
U.S. Department of Transportation
Roadway Vehicle Miles Traveled

- Roadway vehicle miles traveled (VMT) highly seasonal
  - VMT rise sharply from February and continue to rise through the summer months until peaking in August
  - VMT decline through the Fall and Winter with slight increase in October and to a lesser extent, in December, before reaching the all-time calendar year low in February.

Moving Holidays Impacting Roadway Vehicle Miles Traveled

- Only Labor Day and Thanksgiving found to affect a month other than the month of the holiday

<table>
<thead>
<tr>
<th>Model Type</th>
<th>Transformation</th>
<th>Trading days / Significance</th>
<th>Holidays / Significance</th>
<th>Outliers</th>
<th>ARIMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additive</td>
<td>None</td>
<td>Day-of-week</td>
<td>*** Labor Day</td>
<td>** None</td>
<td>(0 1 1)(0 1 1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Thanksgiving</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE:
Labor Day = Friday before to Tuesday after (5 days)
Thanksgiving = Tuesday before to Sunday after (7 days)

*** = significant at 0.01 level
** = significant at 0.05 level
*  = significant at 0.10 level
Seasonally Adjusted Transportation Data: Available Series

- **Scheduled air service**
  - Revenue passenger miles (domestic, international, domestic + international)
  - Available seat miles (domestic, international, domestic + international)
  - Load factor (domestic, international, domestic + international)
  - Enplanements (domestic, international, domestic + international)

- **All air service**
  - Revenue passenger miles
  - Revenue ton-miles (freight)

- **Other**
  - Vehicle miles traveled (roadway)
  - Rail freight carloads
  - Rail freight intermodal
  - Rail passenger miles
  - Public transit ridership
  - Pipeline petroleum
  - Natural gas pipeline
  - Truck tonnage
  - U.S. waterways tonnage
Seasonally Adjusted Transportation Data: Significant Holidays

- **Easter**
  - 2 days before
    - Air freight revenue ton-miles
  - 7 days before
    - Rail passenger miles
    - Rail freight intermodal
  - Thursday before to Tuesday after (6 days)
    - Air revenue passenger miles (all services)
- **Memorial Day**: Friday before to Tuesday after (5 days)
  - Rail freight intermodal
  - Air freight revenue ton-miles
- **Labor Day**: Friday before to Tuesday after (5 days)
  - Vehicle miles traveled (roadway)
- **Thanksgiving**
  - Tuesday before to Sunday after (7 days)
    - Vehicle miles traveled (roadway)
    - Rail passenger miles
  - Tuesday before to Monday after (8 days)
    - Rail freight intermodal
    - Air freight revenue ton-miles
    - Air revenue passenger miles (all services)
- **Christmas**
  - Rail freight intermodal
Seasonally Adjusted Transportation Data: Data Availability

- Seasonally adjusted freight and passenger transportation data series available at: [http://www.transtats.bts.gov/osea/seasonaladjustment/]
Contact Information

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