The example to the right shows how GTL can be used to present an information-rich, customized grid of time series plots from the segments and measures in the TOTARRESTS sample dataset.

### Data Prep

To make coding life easier, several fields are renamed. Additional measures are derived to show the percentage each age segment contributed to the total population and overall number of arrests.

### Define A Template For One Chart

A seriesplot statement is used to create each of the individual charts.

### Let A Macro Do The Rest!

The SAS macro facility is used within the scope of PROC SGRENDER and a Layout Lattice statement to define and create a grid of 30 charts – 5 rows of measures X 6 columns of age ranges.

### Add A Little Visual Interest

PROC FCMP is used to provide Yahoo! Finance stock quote-like summary info for each chart. The ending value is displayed on the chart wall, while YOY change (absolute & percent) and a directional arrow are shown above the chart.
**SAS CODE**

```sas
*==> Rename totarrests SAS dataset variables & compute percentages of totals;
%macro renameVars;
libname l 'C:\Program Files\SAS\9.3\SASEnterpriseGuide\5.1\Sample\Data';
proc sql;
create table totarrests as
select Year, Population as Population0, TotalArrests as Arrests0, ArrestRate as ArrestRate0
%do i=1 %to 5;
, age&i.pop as Population&i, age&i as Arrests&i, age&i.rate as ArrestRate&i
%end;
%do i=0 %to 5;
, Population&i/Population0 as PctPopulation&i, Arrests&i/Arrests0 as PctArrests&i
%end;
from l.totarrests;
%mend;
%renameVars;

*==> Find ending value for specified var and YOY change (Absolute & % Differences);
%let lastvar=?; %let pctchg=?; %let delta=?; %let updown=?;
%macro getdelta;
%let yvar = %sysfunc(dequote(&yvar));
data _null_;
set totarrests nobs=n point=n;
call symput("lastvar",compress(vvalue(&yvar)));
saveval=&yvar;
prev=n-1;
set totarrests point=prev;
pctchg=(saveval-&yvar)/&yvar;
call symput("pctchg",compress(put(pctchg,percentn7.1)));
&yvar=saveval-&yvar;
call symput("delta",compress(vvalue(&yvar)));
if &yvar=0 | &yvar=. then call symput("updown","0020"); /* Space (no change);*/
else if &yvar<0 then call symput("updown","25BC"); /* Down arrow;*/
else call symput("updown","25B2"); /* Up arrow;*/
stop;
run;
%mend;

*==> Define function to permit %getdelta macro calls from PROC SGRENDER;
proc fcmp outlib = sasuser.ds.functions;
function GetDeltas(yvar $);
rc = run_macro('getdelta', yvar);
return(rc);
endsub;
run;

option cmplib = (sasuser.ds);

*==> Define/generate one chart (SeriesPlot - y-axis Metric X x-axis Year);
%macro CreateOneChart(YVAR);
%let rc=%sysfunc(getdeltas("&yvar"));
entry textattrs=(size=19pt) halign=left " " halign=right {unicode "&UPDOWN"x} ";&delta. (&pctchg.)";
endlayout;
```

```sas
Invoke PROC SGRENDER
```