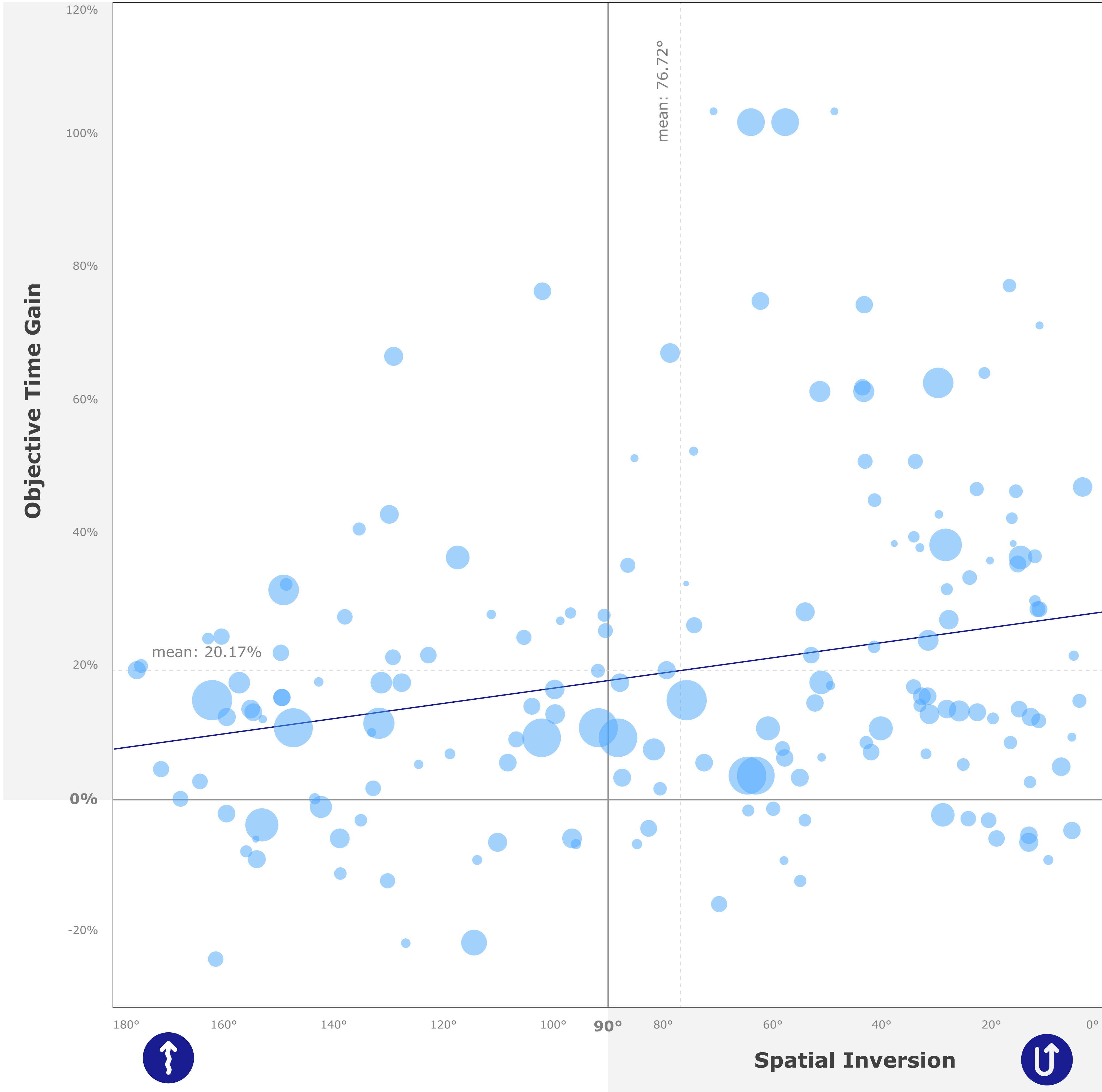


Objective Temporal Optimization Ratio  $R_{to}$  (%)



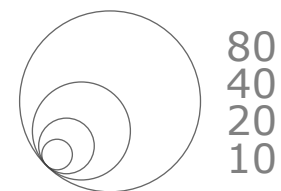
Angle of actual routes with detours  $\alpha_{eff}$  (degrés)

## Legend

Linear regression curve

$y = -0.0012x + 0.2921$   
 $R^2 = 0.0594$

Spatial distance discrepancy (in kilometers) between actual routes (*eff*) and alternative paths (*alt*)



Objective temporal optimization ratio

$$R_{to} = \frac{tO_{alt}}{tO_{eff}}$$

$$tO = t_R + t_A + t_{TC} + t_D$$

## Reading Guide

This linear regression model, presented as a bubble chart, suggests **a positive association** between the extreme geometric configuration of detours, referred to as '**spatial inversion**,' and **the objective time gains** measured through the objective temporal optimization ratio ( $R_{to}$ ).

All else being equal, a segment in access or in egress, marked by both **a spatial detour** (E-TVS) and **a geometric detour** (spatial inversion), is more likely to be characterized by **distance-time savings** at the intermodal travel scale.